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STAFF APPRAISAL REPORT

CAMEROON

THIRD DOUALA PORT PROJECT

March 10, 1983

West Africa Projects Department
Transportation Division

CURRENCY EQUIVALENTS

Currency Unit	=	CFA franc (CFAF)
US$1	=	CFAF 340
CFAF 1 million	=	US$2,941

FISCAL YEAR

July 1 - June 30

SYSTEM OF WEIGHTS AND MEASURES: METRIC

Metric		US Equivalent
1 meter (m)	=	3.28 feet (ft.)
1 square meter (m^2)	=	10.76 square feet (sq.ft.)
1 cubic meter (m^3)	=	35.30 cubic feet (cu.ft.)
1 kilometer (km)	=	0.62 mile (mi.)
1 square kilometer (km^2)	=	0.39 square mile (sq.mi.)
1 hectare (ha)	=	2.47 acres
1 metric ton (t)	=	2,205 pounds (lb.)

ABBREVIATIONS AND ACRONYMS

BCEOM	-	French Consultants (Bureau Central d'Etudes pour l'Equipement d'Outre-Mer)
CAMAIR	-	Cameroon Airlines
CAMSHIP	-	Cameroon Shipping Lines SA
CAR	-	Central African Republic
CCCE	-	French Economic Cooperation Agency (Caisse Centrale de Cooperation Economique)
CCM	-	Cameroonian Procurement Agency (Commission Centrale des Marches)
CIDA	-	Canadian International Development Agency
CY	-	Calendar Year
DCM	-	Direction Centrale des Marches
dwt	-	Dead Weight Ton
EDP	-	Electronic Data Processing
ERR	-	Economic Rate of Return
FY	-	Fiscal Year
FYB	-	First Year Benefit
GDP	-	Gross Domestic Product
LLWL	-	Lowest Low Water Level
MINE	-	Ministry of Equipment
MINEP	-	Ministry of Economic Affairs and Planning
MOT	-	Ministry of Transport
NPA	-	National Port Authority (Office National des Ports du Cameroon)
OCB	-	Cameroon Banana Organization (Organisation Camerounaise de la Banane)
PORTSIM	-	Bank's Port Simulation Model
REGIFERCAM	-	National Railroad Company of Cameroon (Regie Nationale des Chemin de Fer du Cameroon)
ro/ro	-	Roll-on/roll-off

CAMEROON
APPRAISAL
THIRD DOUALA PORT PROJECT

Table of Contents

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Table of Contents (con't.)

ANNEXES

CHARTS

MAPS

CAMEROON

APPRAISAL

THIRD DOUALA PORT PROJECT

I. INTRODUCTION

1.01 The proposed project would be the Bank Group's third port project aimed at:(a) increasing capacity in line with traffic growth; (b) modernizing facilities; and (c) improving operations and management at the Port of Douala, the principal port in Cameroon. The basic objective of the First Douala Port Project (Credit 229-CM),1/ approved in January 1971, was to increase Douala's handling capacity for industrial raw materials and logs through the construction of a new deep-water berth for clinker and other industrial imports; the provision of a shallow draft quay, related facilities and services for log handling; the acquisition of a small cutter suction dredger and the provision of consultancy and advisory services. The physical works were completed satisfactorily in November 1974.

1.02 The Second Douala Port Project (Loan 1321/Credit 657-CM), approved in August 1976, was based on port master plan studies prepared by consultants. The basic objective of the Second Port Project was to provide a quantum jump in port capacity and technology by: (a) the addition of specialized port facilities for log handling, container and roll-on/roll-off (ro/ro) vessels and fishing vessels with related dockyard and workshops; (b) deepening of the access channel to permit larger vessels to enter; (c) the improvement of road and rail access to and within the Port; and (d) the provision of consultant services. This major multi-faceted project (involving 12 co-financiers) has been successfully completed, except for the channel deepening which should be completed by September 1983. In both the first and second projects, the Borrower complied reasonably well with credit and loan covenants. However, as the capital dredging has not yet been completed and the new channel established, NPA has not been able to submit the required maintenance dredging program. During loan negotiations, NPA should therefore agree to submit to the Bank by March 31, 1983 such a work program for review.

1.03 The proposed project would continue the Bank Group's assistance to the Port of Douala. More specifically, the proposed project would

1/ Annex 1 provides a brief description of past Bank Group lending for transportation projects in Cameroon, including major comments from Project Performance Audit Reports.

provide one new container berth and two new multi-purpose berths with related storage and equipment for loading of fruit and handling of other cargo and replacement of an old inefficient tugboat, equipment and studies related to port sector, navigation and dredging as well as hardware and software for data processing and technical assistance to meet remaining institutional weaknesses. It would focus on the main inadequacies in port infrastructure and equipment and the main weaknesses in port organization and management to enable the Port of Douala to meet increasing traffic requirements from expected rapid economic development of the Cameroon during the 1980s while also serving the landlocked least developed countries of Chad and CAR. The outstanding inadequacies in port infrastructure and equipment are two-fold: (a) the poor facility for handling fruit exports at the old existing berth does not provide any back-up area for efficient handling and discharging of rail wagons and trucks or for the temporary storage of the fruit, and the location of the berth next to the clinker berth also results in unhealthy working conditions for the stevedores and damage to the fruit and reefer vessels[1/] from clinker dust; and (b) the inadequate capacities of the existing tugs, and navigation and channel water depths to handle effectively the existing traffic requirements and particularly the relatively larger vessels. With rapidly increasing traffic volumes, the Port will also be facing a growing capacity constraint for general cargo traffic, including containerized traffic; the project therefore includes a port sector study. The foremost remaining organizational and management weaknesses concern personnel administration and data processing.

II. THE TRANSPORT SECTOR

A. General

2.01 Cameroon, with a population of about 8.4 million, an area of about 475,000 km^2 and per capita GNP of about $670 (1980), is one of the more dynamic and wealthier countries in West Africa, with substantial potential for further economic growth. The GDP growth rate increased from about 4.2% p.a., during the Second Plan period (FY1966-1971) to 4.5% p.a., during the Third Plan period (FY1972-1976), to an estimated 8.1% p.a., during the Fourth (FY1977-1981). Rapid expansion in agriculture, manufacturing and mining, including promising recent gas and petroleum discoveries and increasing crude oil exports, supported by increased consumption and investments, contributed substantially to economic growth.

2.02 During the Second and Third Plan periods the Government gave high priority to the transport sector to provide a basic infrastructure for the economy, to interconnect regions, to open up new areas and to provide the necessary infrastructure for foreign trade. This interval was followed by a gradual shift in emphasis towards the productive

1/Specialized vessels equipped to handle cargo under temperature controlled conditions.

sectors (agriculture, manufacturing and mining) and social sectors, with a reduction in the relative share of transport sector investments. The share of transport investments envisaged in the Government's investment plan thus fell from a high 37% realized in the Third Plan period, FY1972-1976 to 27% for the Fourth Plan period, FY1977-1981 and a planned 21% for the Fifth Plan period, FY1982-1986.

2.03 With continuing Government priority being given to agriculture (both for exports and domestic consumption), expected substantial increases in oil and gas production, and with vast and still largely unexploited natural resources (particularly agricultural, forestry, hydroelectric and mineral resources) the outlook for continued economic growth appears favorable. Economic growth, including expansion in agriculture, forestry and mining with related increase in foreign trade will, however, be dependent, inter alia, on the maintenance, improvement and expansion of the transport system, including the Port of Douala.

B. The Transport Network

2.04 The transport infrastructure consists of about 65,000 km of highways or about 0.14 km per km^2 (of which about half comprises unclassified earth roads and tracks); 1,153 km of railways; one principal port at Douala and four minor ports; a main international airport at Douala, with a second one at Garoua, together with a dozen smaller domestic airports. Chapter III comments more fully on the port sub-sector while Annex 2 describes briefly the transport infrastructure, including minor ports.

2.05 Cameroon's transport system is export/import-oriented and focuses on Douala, the main port (handling about 93% of the country's important foreign trade) and commercial center (see Maps 15995 and 15996R1). To a large extent, exports and imports through Douala are shipped via the Douala-Bafoussam corridor and the road/rail Trans-Cameroon route to Yaounde, Northern Cameroon and the Chad border. Chad to the northeast relies on the Cameroon transport network and the Port of Douala for its principal access to the sea and the international markets, while CAR to the east is finding it increasingly attractive to transport high-value/low-volume goods via the shorter and faster Cameroonian transport links, rather than through the trans-equatorial route. Two important transportation projects, the upgrading of the Douala-Yaounde Road and the proposed realignment of the remaining sections (Edea-Eseka-Mbalmayo) of the Trans-Cameroon railway line of REGIFERCAM should further strengthen the focal point of Douala and facilitate the inland transport links of the Port. The upgrading of the Douala-Yaounde Road will be financed in part under the Fifth Highway Project, approved in June 1982.

2.06 The Port of Douala will continue to be the main port of Cameroon. Studies have recently been completed regarding future port expansions at Douala once the remaining unused shore area in the Port has been developed (para. 5.09). Studies are being carried out for a possible new port in the south (near Kribi) with related inland transport

infrastructure aimed at opening up the southern part of the country to permit exploitation of the region's natural resources, particularly its forests. The potential scope and timing of such a project are not yet clear. There appears now to be a need for an overall review of the port sector, including existing studies, to define an overall port development strategy. Such a study will be carried out under the project.

C. Transport Policy

2.07 In view of the Government's limited transport planning and management capabilities, there have in the past been problems in designing and executing projects. The Government recognizes this problem and is, in consultation with the Bank, taking steps to improve the situation as indicated below.

2.08 The Bank has in recent years assisted the Government in strengthening the major transport agencies and in developing a systematic and sound approach to transport planning and project preparation and design. This process included, inter alia, technical assistance to the Ministry of Economic Affairs and Planning (MINEP), the Ministry of Transport (MOT), the Ministry of Equipment (MINE) and the National Railroad Company of Cameroon (REGIFERCAM). In conjunction with the Fifth Highway Project, the Bank is continuing to assist MOT in transport planning and MINE for road maintenance, road design and laboratory work.

2.09 The Bank's sectoral objectives continue to be threefold: (a) to strengthen management and improve operations in the transport sub-sectors; (b) to provide additional capacity to meet increasing traffic requirements; and (c) to develop the Government's transport planning capacity as provided in the Fifth Highway Project. The proposed Third Port Project focuses on (a) and (b) for the port sub-sector. The Staff Appraisal Report for the Fifth Highway Project (Report 3473-CM) describes in more detail the transport network, priorities, planning and policy in the Cameroon.

III. THE PORT SUB-SECTOR

A. Port Organization

3.01 The National Port Authority (NPA - Chart 1) was established in 1972 in connection with the Bank's First Port Project. It is a financially and operationally autonomous public corporation for administration, maintenance and construction of all coastal and river ports, for the maintenance of navigational aids and for the management of industrial port activities. In addition to Douala, which is by far the most important port, it has the responsibility of three smaller coastal ports, Kribi, Tiko and Victoria-Pointe Limboh, and a small seasonal river port at Garoua. NPA's Articles of Agreement, established by law in June 1971 and modified by decrees in April and July 1972, are geared to give NPA reasonable operational and financial autonomy, situating it under the

tutelage of the MOT. The Government is responsible for approving tariff changes and for covering NPA's losses, if any. NPA's management and administration have improved substantially since the establishment of the Port Authority, and are generally sound.

3.02 NPA's Board of Directors consists of twelve members representing MINEP (2), the Ministry of Finances (1), MOT (1), the Ministry of Labor and Social Affairs (1), the Director General of REGIFERCAM (1), the maritime professions (2), the Chamber of Commerce (1), plus two members and the President of the Board appointed by the Presidency of the Republic. A representative of the union attends the meetings of the Board as an observer. The President of the Board, the Director General of NPA and the two Deputies to the Director General are appointed by presidential decree.

Past Trend and Present Organization

3.03 Changes in NPA's operational structure since 1972 have been directed toward increased decentralization of responsibilities and toward the adaptation of NPA to meet the changes in its environment. The initial changes in 1976 involved reinforcing the Directorate of Technical Studies with technical assistance as needed, to facilitate implementation of the large extension to the Douala Port under the Second Port Project. From 1979 forward, with the near completion of the extension project, the emphasis shifted to management, operations, and maintenance of the new port. Recent changes in the organization (FY1979) reflect this new orientation with the creation of a Directorate of Finances, and a management control unit with technical assistance provided by the French Economic Cooperation Agency (Caisse Centrale de Cooperation Economique - CCCE) under the Second Port Project. These two units report directly to the Director General. For the improvement of port operations, a division of training was created in 1980 with Canadian technical assistance, also provided under the Second Port Project. In order to improve port maintenance, the Directorate of Civil Works is at present being reinforced with technical assistance transferred from the Directorate of Studies where it was no longer needed following the completion of the major port expansion under the Second Douala Port Project and the successful strengthening of the Cameroonian staff. Proposals for continuing the reorganization in this sector with clear objectives and an action program for improving productivity and reducing costs are included in the Action Plan for Organizational Development agreed upon during negotiations (Annex 5).

Prospective Changes

3.04 Although NPA's organization is adapted to its present needs and is generally adequately manned, some improvements can be made that will help in meeting its future needs. These organizational improvements which effect the Directorate of Civil Works, Access and Movement of Ships, Management of Human Resources, the Directorate of Finance, and the Department of Economic Studies are included in the Action Plan for Organizational Development (Annex 5) agreed with NPA during negotiations. They will be supported by specialized training in the

sectors to be developed and by special recruitment actions for reinforcing the existing staff. NPA's management is favorable to the proposed structural changes and has agreed to take the necessary steps.

3.05 NPA's past activities include not only the management of ports but also ship repair activities. Recent studies conducted by NPA highlighted inefficiencies in the operation of the marine repair workshop, resulting in financial losses (about CFAF 150 million in FY1981). These poor results are due to NPA's inadequate terms of employment for industrial activities, lack of experience of upper-level management in industry and inadequate investment and training policies. These studies also indicate that marine repair requirements, which involve 25% of NPA's staff, may increase as a result of the extension of the CAMSHIP national fleet, expected development of the fishing fleet, and overall petroleum research activities in Cameroon by private companies, while the port's internal maintenance activities for floating crafts are not expected to increase significantly.

3.06 To stimulate ship repair activities in Cameroon, NPA and the Government are considering creating a separate, semi-public corporation associating public Cameroonian capital (61%) and foreign private capital (39%) to take over the marine repair yard. Definition of the exact organization and technical layout of the new firm is underway. Benefits expected from the proposed corporation are: (a) a more market-oriented commercial policy; (b) better management; (c) in a first stage, foreign technical assistance; and (d) enhancement of the quality of repair services offered to port users. The proposed separation appears to be based on sound principles. However, the separation will only be in the long-run interest of the country and NPA if the new entity becomes economically viable. During negotiations Government and NPA agreed that prior to finalizing any commitment with a partner for a new structure of the workshop and ship repair activities, the commercial perspectives and investment needs of the new entity will be studied in detail in consultation with the Bank.

B. Staffing and Training

3.07 NPA's present staff totals 1,267, including 70 at management level. Staffing has been kept at an almost constant level since 1978, with a less than 6.5% total increase over the period. There has been, however, a significant change in staffing structure, as the increase was mainly in intermediate and higher level staff. NPA's present hiring policy is based on apparent needs and a case-by-case approach with little overall manpower planning. The need for better personnel administration and manpower planning is demonstrated by the concentration of staff increases in the Directorate of Workshops as well as in the Directorate of Civil Works, where the activity level has not increased significantly. In the secondary ports, the number of staff has decreased slightly but further reductions are needed, mainly in Victoria and Garoua, in view of their decreasing traffic levels and present overstaffing. As part of the Action Plan for Organizational Development (Annex 5) agreed upon during

negotiations, NPA will present for comment to the Bank by June 30, 1984 a five-year manpower plan based on port activity projections. This Action Plan for Organizational Development also includes the hiring of a Deputy Director for the management of human resources by December 31, 1983. The proposed project includes some 18 man-months for consulting services to improve the structure of the Personnel Administration Department and for manpower planning.

3.08 NPA's salary adjustment system is basically automatic and does not provide adequately for individual merit recognition and incentives through selective salary adjustment. The proposed project includes 10 man-months of technical assistance to recommend improvements to the remuneration system and the personnel evaluation and grading system and to assist in implementing agreed improvements. In parallel, NPA has set up special training sessions on personnel motivation for its professional staff.

3.09 In the past, NPA relied upon expatriate technical assistance for highly qualified jobs related to supervision of construction of the new port under the Second Port Project. Due to the decreasing role of construction supervision in NPA and to the increasing availability of young Cameroonians, NPA can now gradually reduce foreign technical assistance by replacing some expatriates with qualified Cameroonians, for repair and maintenance work. NPA's future technical assistance program will be discussed annually with the Bank, as part of its manpower plan included in the Action Plan for Organizational Development (Annex 5).

3.10 NPA's technical training has improved significantly in the past three years. Under the Second Port Project, CIDA financed the reorganization of NPA's internal training system which resulted in the organization of an adequate locally staffed training unit (with 24 part-time trainers, a qualified head of the training unit and support staff) and in the definition of 12 training curricula, to be implemented beginning in FY1982. In addition to this internal training system, NPA makes use of outside training for special requirements. Recently NPA prepared a tentative five-year training plan for outside training, to be revised annually. Also it will prepare by June 30, 1984 an internal training plan, as part of the manpower plan (para. 3.07).

C. Port Management and Information System

3.11 NPA's management at the departmental and top levels is being progressively Africanized whenever qualified Cameroonians are available. Newly created divisions such as those in charge of Statistics and Management Control are initially manned by technical assistants with suitable counterparts. Most managerial staff is well qualified and experienced, and the quality of NPA's high-level managerial team is certainly one of its strong points. At the intermediate management level however, the weakness of financial incentives in NPA's remuneration system and of career planning has resulted in a rather apathetic attitude. NPA is aware of this problem and is trying to improve the situation.

Financial Information System, Budgeting and Corporate Planning

3.12 NPA's accounting system is generally satisfactory. It was successfully computerized and produces useful documents for decision-making at management level. NPA's fixed assets were revalued in 1981, as agreed under the Second Port Project. The revalued figures will be used for the calculation of depreciations for cost accounting and proposals for tariff adjustments. The inclusion of these revalued figures in the general accounts is still subject to a pending decision of the Ministry of Finances. During negotiations, the Government and NPA should agree to present annually to the Bank NPA's financial statements including revalued assets in parallel with the financial statements required by national law. NPA should also agree to the annual up-dating of the evaluation of fixed assets. Adequate accounts are produced within two months of the closing date of the fiscal year and audited by a "public auditor" appointed by the Government. As the auditing procedure of the "public auditor" does not meet the Bank's standards regarding the audit of borrower's accounts, NPA agreed under the Second Port Project, to have its accounts audited by a private auditing firm. In the future, NPA should continue to submit audited financial statements to the Bank for review within six months after the end of the fiscal year. This procedure was confirmed at negotiations.

3.13 The ports' budgeting and management control systems have been modernized under the Second Port Project with technical assistance financed by the CCCE. With this new budgeting system, NPA produces an adequate annual operating budget and can compare the actual result with the budgeted figure for each cost and revenue center. A budget review is organized every month at the Director General's level. The new budgeting system began functioning in January 1981, and is highly detailed and complete. However, it needs some simplification for reasons of practicality. The technical assistant who has been appointed to assist NPA in the implementation of the system will be retained for an additional two years. NPA has agreed to appoint promptly a qualified counterpart who can take over at the end of the expatriate's assignment.

3.14 NPA's financial system has grown increasingly complex with the increases in the volume of operations, with the development of financial operations in foreign currencies for servicing the debt, and with the extension of fixed assets. Recent staff reassignments have shown that intermediate-level staff were insufficiently trained and that there was a shortage of talents at the upper level. NPA agreed during negotiations to include in the Action Plan for Organizational Development (Annex 5) reinforcement of the financial sector through training of the staff, and by recruiting a qualified Deputy Director of Finances, once a new Director has been appointed, in consultation with the Bank. A Department for Corporate Planning will be established and adequately manned, in charge of preparing and updating annually the five-year revolving plan for port activities and the financial plan, and in charge of coordinating preparation of the investment and manpower plans. NPA agreed during

negotiations to include the establishment of this department in the Action Plan for Organizational Development (Annex 5).

3.15 In contrast, infrastructure investment planning is adequate but only as a result of consulting services provided under previous Bank projects. A Division of Economic Studies and Planning, in the Department of General Studies (Directorate of Studies) was created in 1979, but has not fulfilled NPA's expectations due to inadequate staffing. This sector of the Directorate of Studies must be reinforced with qualified local staff for economic studies. During negotiations, NPA agreed to include in the Action Plan for Organizational Development (Annex 5) the recruitment of a suitable candidate for the Division of Economic Studies.

Statistics and Management Information

3.16 Recently, NPA undertook a complete revision of its statistical system for port operations to enable it to cope with the operational needs resulting from traffic increases and the need for operation of the management information system. However, the new system still needs to be further developed. The statistical system for port operations will be reviewed and improved following the UNCTAD recommendations for West African ports under the proposed project that includes technical assistance for this purpose.

3.17 With NPA's decentralization and the improvement in managerial techniques, the inadequacy of NPA's communication and information system is becoming more apparent, despite some recent improvements. The main problems are: (a) inter-departmental circulation of information and coordination for a task-oriented (non-hierarchical) approach; (b) availability of basic technical documentation on port operations, accounting, economics, legal aspects, etc., below the upper management level; and (c) organization of an adequate records office and documentation center mainly for civil works, drawings, hydrography and dredging, statistics and accounting. The proposed project includes 14 man-months of technical assistance for improving NPA's communication and information system and for reorganizing its record office and documentation center.

Data Processing

3.18 In the past, data processing for public entities was closely controlled by the Government. Therefore, NPA's data processing was performed mainly on the computer of the Presidency. With NPA's increasing requirements in this respect (e.g., statistics on operations, budgeting and accounting) the constraints and delays caused by the present system have become serious and prevent further development. The Government has recently changed its position on data processing policy in public firms, giving them more independence and accepting their autonomy in this respect. NPA is therefore considering the acquisition of its own autonomous data processing system. This acquisition should be part of the implementation of a five-year plan to be agreed with the Bank covering the staged development of the port's data processing system. The proposed project includes provision for retroactively financing a review

of NPA's present data processing system by a qualified independent expert. This expert will assess NPA's present situation and its future needs, and prepare a long-term development plan to be submitted to the Bank for agreement by September 30, 1983 and to be promptly implemented thereafter. As a contribution to the implementation of the data processing plan, the proposed project includes provision for the procurement of hardware as needed for the implementation of the 1983-1985 portion of the agreed data processing development plan and technical assistance for software as needed for the transposition and improvement of the existing data processing system. Disbursement for computer hardware and technical assistance for software will be subject to the Bank's agreement on the review of the existing data processing system, and on the long-term data processing plan. NPA agreed during negotiations, as part of the Action Plan for Organizational Development, to strengthen the upper level staff of the Data Processing Department, to allow it to cope with the sudden extension of its activities (Annex 5).

IV. THE PORT OF DOUALA

A. Port Facilities and Operations

Port Facilities

4.01 The Port of Douala lies on the Wouri Estuary some 30 km from the ocean. The entrance channel is being dredged to a depth of 7.5 m over a length of about 22 km and to 9.5 m at the outer bar. Vessels up to 20,000 dwt will be able to use the Port when the ongoing dredging is completed except at the bar towards the third quarter of 1983.

4.02 Port facilities are largely on the Douala side of the estuary and consist of:

(a) a fishing port basin and a dockyard with 660 m long marginal wharfs for fishing vessels and oil exploration boats;

(b) along the entrance channel, 2,200 m of marginal wharfs (nominally fifteen berths) for general cargo, bulk berths for ALUCAM and CELLUCAM, containers and ro/ro; and

(c) a log port basin with ramps for rolling logs into the water and a marginal wharf for loading logs in barges.

Imports of petroleum products are handled at a mid-channel berth, while petroleum exports are handled in other ports in Cameroon.

4.03 The Port has a storage area of 106 ha, of which 6 ha are covered and 100 ha are open. Of the open storage, 22.6 ha are used for containers, 20 ha for logs and the rest for bulk materials and general cargo. Access to the Port is provided by roads and railway spurs; a bridge connects Douala to the other side of the estuary at Bonaberi. At

Bonaberi there are two marginal wharfs adjacent to each other; one is used for unloading cement clinker and gypsum and the other for loading fruit. Dust from the clinker operation damages the fruit and creates an unhealthy environment for the stevedores. Under the project this situation will be rectified through construction of a new marginal wharf on the Douala side for handling general cargo and fruit which may allow the vacated berth at Bonaberi to be modified and used for unloading a greater volume of cement clinker. Annex 3 describes the installations in Douala Port.

Port Operations

4.04 NPA's functions at Douala Port include inter alia maintenance dredging of the entrance channel and along wharfs, buoyage and pilotage. NPA also operates a dockyard, a slipway, two floating docks, an ice plant and refrigerated storage for fish. General cargo traffic is handled by five independent stevedoring companies using their own equipment which they maintain. These companies lease sheds and open storage areas from NPA. Containers and ro/ro traffic are handled by a consortium of the five stevedoring companies that collect charges from the users. Log traffic, currently the second most important cargo in Douala, is handled by two autonomous companies which are owned in part by NPA. Alumina and its products are handled by ALUCAM and cement clinker by CIMENCAM; both companies are partly state-owned. The port has no working restrictions for nights or holidays. Details on port operations are also described in Annex 3.

4.05 NPA's port operations in Douala and cargo handling by private companies appear reasonably efficient when compared to some of the better managed West African ports; however, improvements need to be effected in maintenance dredging of the channel and along berths, in buoyage, in positioning of ships, pilotage, handling of fruit and in customs clearance procedures. The process of clearing containers has been slow. As a result of coordinated efforts by the parties concerned, NPA, customs and shipping agents, the average container storage time was reduced from about 45 days in 1980 to about 22 days in 1981. The Government and NPA are, following a recent study tour to European ports, preparing a plan of action for further reduction in the average container storage time which will be sent to the Bank for comment.

B. Traffic - Past and Present

4.06 Total foreign traffic through Douala Port increased rapidly during the 1970s, particularly during the second half of the decade. Thus, total foreign traffic increased from 1.7 million tons in 1969 to 2.0 million tons in 1975 and 3.3 million tons in 1980 or by average rates of 3.2% p.a. and 10.9% p.a. respectively (Annex 4, Table 4.1). While the traffic growth slowed to 5.5% in 1981 to reach 3.5 million tons, this appears to have been a temporary phenomenon linked with a net decline in log exports. Preliminary traffic data for 1982 show 8.5% increase over

1981 with imports increasing 11% and exports remaining unchanged due mainly to difficult log and timber market situation.

4.07 General cargo, including timber, accounted for about 75% of the traffic in 1969 and 60% of the 1981 tonnage. Bulk traffic handled at specialized facilities includes imports of petroleum products, clinker, gypsum, and alumina and exports of aluminum. Certain other minor items are also partly handled at the bulk facilities.

4.08 The tonnage of general cargo increased only marginally between 1969 and 1975--from 1.2 million to 1.3 million tons. However, in line with the faster growth in GDP, the general cargo tonnage rose to 2.1 million tons in 1980 or by 10.1% p.a., as compared with a growth rate of only 1% p.a., during the 1969-1975 period. Imports accounted for about 55% of the total general cargo tonnage in 1980 and exports for 45%. General cargo imports have been increasing faster than general cargo exports; between 1975 and 1980 the rates of increase were 13.0% and 7.3% p.a., respectively.

4.09 As for total traffic, the increase in general cargo suffered a temporary setback in 1981 as the growth in imports was offset by the decline in log exports. Rapid growth resumed in 1982 as the tonnage carried by general cargo vessels, container vessels and ro/ro vessels increased by about 17.5% over 1981 to reach 2.4 million tons.

4.10 The figures for general cargo exports include logs (approximately 40% of the export tonnage). According to the Societe pour l'exploitation des Parcs a Bois du Cameroun (SEPBC), approximately 70% of the logs are loaded from the waterside on board general cargo vessels, with the remaining 30% being loaded on returning mineral carriers or log carriers at buoys or at the ro/ro berth. The high percentage of the shipments on general cargo vessels is related to the organization of trade with substantial numbers of exporters and importers, which in turn results in small consignments. Other important exports are sawn timber, coffee, cotton and cotton oil, and fruit. The more important groups of general cargo imports are food and beverages, equipment (including iron and steel) and fertilizers.

4.11 General cargo is handled mostly by conventional break-bulk and multi-purpose vessels, although cargoes of fruit are carried by specialized reefer vessels loading under unsatisfactory conditions at the old fruit berth on the Bonaberi side (para. 4.03). The importance of container and ro/ro traffic has been increasing rapidly in recent years, aided by the new container berths and ro/ro facility. In 1980 containerized traffic through the Port of Douala reached 411,000 tons in about 35,400 containers, averaging 11.6 tons per container. It rose to 553,000 tons in 1981. Roughly 60% of all cargo handled by ro/ro vessels are containerized. Approximately 90% of the container traffic is handled at the specialized container or ro/ro berths, with about 10% handled over the conventional general cargo berths (berths 3-11). Unlike many other developing countries, Cameroon's container traffic is fairly evenly balanced, with 305,000 tons of imports and 248,000 tons of exports in

1981. This traffic pattern may, however, gradually change in the coming years inasmuch as general cargo imports are expected to grow faster than general cargo exports.

4.12 The average berth occupancy at the general cargo berths was 75% in 1980 and 73% in 1981, which is fairly high and the average ship-waiting time was 18 hours in 1980 according to NPA. As a result of increased traffic, the berth occupancy of the general cargo berths increased to an exceedingly high 85% in the first months of 1982, thus confirming the need for additional capacity. Apart from ships waiting due to lack of a vacant berth, this estimate also includes waiting by the larger vessels for high tide.

V. INVESTMENT PLAN AND THE PROJECT

A. NPA's Investment Plan

5.01 The Second Port Project was largely formulated on the basis of NPA's FY1977-1981 investment plan which laid heavy emphasis on physical elements geared to capacity expansion. The project provided most of the essential elements in that plan and also laid the foundations for an improved management system.

5.02 In view of the higher than anticipated traffic increases, the final part of this plan had to be accelerated by about one year in order to satisfy the demand (para. 5.05). Therefore, the rehabilitation of the old general cargo berths was successfully completed in 1980-1981.

5.03 For FY1982 to 1986, NPA has presented a new investment plan (Annex 4, Table 5.1) for a total of approximately CFAF 27.0 billion in constant francs, including replacements. The proposed project represents about CFAF 7.5 billion from a total of CFAF 21.4 billion for the FY1983-1985 period. Essential items left out of the project are the oil exploration facilities, to be financed by the Government, and projects subject to further study, or to be executed on force account by NPA.

5.04 This plan is geared to extending port capacity following the expected traffic increase, to improving security of access, and to improving quality of service provided by Douala Port to landlocked countries.

5.05 Capacity extensions in the plan include: (a) the rehabilitation of quays 1 and 2, which are specialized for ALUCAM and CELLUCAM, completed in FY1982; (b) an extension by two berths (included in the proposed project) which is needed by CY1985 when general traffic is expected to reach 3.0 million tons; and (c) start of construction of a third container berth (included in the project subject to reconfirmation of its justification before start of construction) which is needed by about CY1988 when the traffic is expected to reach about 3.7 million tons. In addition, the investment plan includes items for improving the security of access and movement in the Port, with a stationary dredger

and a buoyage vessel, a logistic base for oil exploration, and the construction of a new headquarters for NPA, as well as the National Shipper's Council and the maritime companies. Subsidiarily, it includes the construction of a storage area for the landlocked countries, part of a regional project of assistance to these countries. The other items replace existing equipment. In addition to the capacity expansions under (a), (b) and (c) above, further general cargo capacity is likely to be needed by the early 1990s or when general cargo, including containerized traffic reaches about 4.3-4.6 million tons. The extent and timing of such further container or multi-purpose general cargo capacity expansions will depend on the rate of growth in general cargo traffic, the degree of containerization and the extent to which further productivity gains are achieved.

5.06 Most significant items of this plan are economically and technically justified although the timing of the container crane purchase aimed at increasing berth capacity and the acquisition of a stationary dredger have to be studied further. In connection with the container cranes, it was concluded that the construction of a third container berth would be more advantageous taking into account the relatively modest investment cost of such a berth in the case of Douala (para. 6.04) and the fact that the container and multipurpose vessels presently serving or planned for West Africa are equipped with their own cranes for container handling. During loan negotiations NPA agreed not to acquire container cranes except with justification acceptable to the Bank. Studies for both maintenance and further deepening the channel from 7.5 m to 9 m, are included in the project. These studies will include technical, economic and financial evaluations and will be made available to the Bank by December 31, 1985. As agreed during negotiations, NPA will present to the Bank for review by June 30, 1984, as part of its corporate plan included in the Action Plan for Organizational Development, its investment and financing plan in two parts: Part A including all items economically and technically justified, and Part B for items envisaged but still subject to further studies. NPA will also present annually to the Bank, for discussion as part of this Action Plan, proposed changes to the investment and financing plan, over the disbursement period.

B. Objectives of the Project

5.07 The main objectives of the proposed project are:

(a) to provide additional port capacity to enable the Port of Douala to handle increasing traffic volumes under improved conditions, and with reduced ship-waiting and service time;

(b) to improve navigational safety and ability to handle without undue delays larger ships by replacing an old, inefficient tugboat by acquiring electronic positioning equipment, upgrading buoyage; and

(c) to improve further NPA's management information system, as well as its administrative and operating efficiency.

C. Project Description

5.08 The project would comprise the following principal components:

(a) Civil Works

(i) construction of one 200 m long container berth and two 200 m long multi-purpose marginal berths, for handling mixed general cargo and, also at one of the berths, for loading fruit. The berths will be of steel sheet piling in 9.5 m water depth, with cathodic protection;

(ii) construction of an approximately 46 m wide and 146 m long partly ventilated warehouse behind the first berth, for storage of fruit and general cargo; and

(iii) construction of access roads and a railway spur1/ on the apron of the first berth to handle heavy loads.

(b) Equipment

(i) mobile conveyors, for storage of fruit in the ventilated part of the warehouse and for loading of fruit onto ships;

(ii) a tugboat of 1,700 hp with approximately 25-ton bollard pull;

(iii) electronic positioning equipment; and

(iv) upgrading of buoyage at the entrance channel.

(c) Data Processing

(i) technical assistance for data processing planning, including evaluation of computer requirements (8 man-months); and for software for management and technical operations (75 man-months); and

1/ The railway spur will be counter-sunk in the pavement to minimize the wear of tires on the cargo-handling equipment and improve operations.

(ii) a central processing unit and auxiliary equipment as defined in the data processing plan under (i) above.

(d) Consulting Services

(i) consultants for supervision of construction of civil works, tugboat, and for reception of fruit-handling equipment (82 man-months);

(ii) consultants for establishing a system of staff evaluation and incentives (10 man-months);

(iii) consultants for staff and manpower planning and personnel administration (18 man-months);

(iv) consultants for organizing the records office and for filing technical, economic and managerial information (14 man-months);

(v) consultants, for a port sector study (12 man-months);

(vi) consultants for a dredging study plus mathematical model studies (30 man-months); and

(vii) consultants for navigation aid study (17 man-months).

5.09 The consultants preparing the project considered alternative solutions for the handling of fruit, including the construction of a new multi-purpose berth (as recommended by them), the construction of a specialized fruit berth and the use of existing general cargo berths. Existing berths could not be used because of congestion and environmental problems while a specialized fruit terminal was not found to be economically and financially justified. The only suitable location for a new berth, as originally proposed, would be somewhere in the existing 600 m long gap along shore, adjacent to berth 11 and between the existing general cargo berths and the existing container terminal. Subsequently, in light of recent rapid traffic growth NPA and the Bank agreed to increase this project to two multi-purpose berths and a container berth. Construction of the container berth has been included as an option in the bid documents and in the project. Bank disbursement for this berth will be subject to confirmation, acceptable to the Bank of its justification (para. 5.16).

D. Cost Estimates

5.10 The total estimated cost of the project is US$33.0 million equivalent. The cost estimates for civil works shown below are based on final designs and unit prices indicated by the consultants for similar

works and the preliminary bid evaluation by NPA/Direction Centrale des Marches (DCM) received in January 1983. The cost estimates for the other items are based on information obtained from builders of boats and equipment, and an estimated 183 man-months for consultants' work and 83 man-months of technical assistance for data processing at US$12,000 per man-month including per diem, transportation and other reimbursable items. Estimates are calculated in January 1983 prices and include price escalation and physical contingencies over the project period. Given the uncertainty in soil conditions (the area was used for dumping all kinds of debris), 15% physical contingencies were assumed for all civil works. Price contingencies have been calculated for foreign costs at 8.0% in FY1983, 7.5% in FY1984, 7% in FY1985 and 6% in FY1986-1988; for local costs at 12% annually.

Project Cost Summary 1/, 2/

	(CFAF million)			(US million)			% of Foreign Exchange	% of Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
Civil Works	1,666	2,856	4,522	4.9	8.4	13.3	63	40
Fruit-Handling Equipment	34	272	306	0.1	0.8	0.9	89	3
TugBoat	--	1,020	1,020	--	3.0	3.0	100	9
Electronic Position Systems	--	170	170	--	.5	.5	100	2
Buoyage	--	68	68	--	.2	.2	100	1
Data Processing Equipment	--	272	272	--	0.8	0.8	100	2
Consultants	238	544	782	0.7	1.6	2.3	69	6
Technical Assistance for Data Processing	68	272	340	0.2	0.8	1.0	80	3
Total Baseline Costs	2,006	5,474	7,480	5.9	16.1	22.0	73	66
Physical Contingencies	238	612	850	0.7	1.8	2.5	72	7
Price Contingencies	1,326	1,496	2,822	3.9	4.4	8.3	53	26
Total Project Costs	3,570	7,582	11,152	10.5	22.3	32.8	68	99
Front-end fee on Bank Loan	--	68	68	--	0.2	0.2	100	1
Total Financing Required	3,570	7,650	11,220	10.5	22.5	33.0	68	100

1/ Rate of exchange 340 CFAF = 1.0 US$. Base costs as of January 1983.
2/ For details see Annex 4, Table 5.2; the cost estimates exclude taxes (the project will be exempted of taxes and duties).

5.11 Given the complicated soil conditions at the proposed location of the new berths, it was difficult to estimate project costs reliably. Furthermore, bid prices were expected to be affected by the existing workloads of pre-qualified contractors. NPA decided therefore to receive tenders prior to loan negotiations so that project costs could be adjusted as necessary; normal physical contingencies have been retained

for civil works to cover possible claims arising from difficulties in driving the steel sheet piling.

E. Project Financing

5.12 The Bank will finance foreign exchange costs of US$22.5 million equivalent and NPA will finance local costs of the project of US$10.5 million equivalent.

F. Project Implementation

5.13 NPA will be responsible for overall project implementation in accordance with the time schedule as shown in Chart 2. NPA will engage consultants satisfactory to the Bank to supervise construction of civil works. NPA is preparing, with the assistance of consultants, performance specifications for construction of a tugboat; the same consultants will also assist NPA in evaluating the bids for the tugboat and will supervise its construction. NPA had retained consultants to prepare tender documents for the fruit-handling equipment and assist in the acceptance of the equipment. Overall project implementation is expected to take about five years and is scheduled to be completed by the end of 1988 (Chart 2). NPA will also retain consultants for (a) port sector study; (b) dredging study; (c) navigational aid study; (d) personnel administration; (e) staff evaluation; and (f) information systems.

G. Procurement and Disbursement

5.14 All civil works and equipment will be procured under international competitive bidding procedures following Bank guidelines. The computer will be procured under international competitive bidding following the performance specifications prepared by the consultants for electronic data processing (EDP) planning, financed under the proposed project. Prequalification of contractors for the Douala Port extension civil works was carried out between July 15 and August 31, 1981 by NPA and the procurement agency (Commission Centrale des Marches - CCM) and the results were reviewed and six contractors prequalified. Also, draft bid documents for the above works incorporating changes recommended by the Bank have been revised and were distributed to the prequalified contractors July 27, 1982. Bids were received by DCM in October 1982 and preliminary evaluation completed by them December 1982. According to the latest program reviewed with NPA in January 1983, the overall project execution is expected to start after Board presentation (Chart 2). In the civil works bid documents, the construction of the third berth has been included as an option. Due to possibilities of additional cost reductions, DCM/NPA are considering awarding the contract for all three berths. NPA will appoint qualified consultants to assist with project implementation. These and other consultants financed by the loan will be selected on the basis of procedures to be agreed with the Bank and on terms and conditions satisfactory to the Bank.

5.15 The proposed project includes provision of US$100,000 for retroactive financing of expenditures incurred after July 1, 1982. This comprises an amount of US$80,000 for the revision of NPA's EDP system and preparation of a long-term plan for data processing to be completed before procurement of the hardware equipment and software, as well as US$20,000 for the preparation by consultants of performance specifications and bid evaluation for the tugboat.

5.16 The disbursement on the following items will be subject to the preliminary fulfillment of specific conditions:

(a) the optional container berth will be subject to confirmation, satisfactory to the Bank, that it remains economically justified;

(b) the EDP hardware and technical assistance for software will be subject to the presentation by NPA of a long-term EDP plan acceptable to the Bank; and

(c) the fruit-handling equipment will be subject to assurance by NPA and the Government, satisfactory to the Bank, that the equipment will be used for the intended purpose.

5.17 The proposed Bank loan would finance 63% of the total cost of civil and related works, 100% of tugboat, data processing equipment, electronic positioning equipment and upgrading of buoyage in the entrance channel, 89% of fruit-handling equipment, 80% of technical assistance for data processing and 69% of consultants' services. Disbursements from the Bank loan will be made on receipt of full documentation.

5.18 While preparing the disbursement schedule, various profiles including that of the Second Douala Port Project were reviewed. The normal Bank profiles indicate a disbursement period of about eight years while the disbursement period for the Second Douala Port Project was five years. In the case of the Third Douala Port Project, tenders for civil works have been received. Execution of these works is not expected to be longer than 30 months. Taking these factors into account, the normal Bank profiles were compressed to five years (Chart 2). The cost estimate and the disbursements are based on the following time schedule.

Estimated Disbursement Schedule, FY1982-1988
(US$ millions)

IBRD Fiscal Year and Quarter	Quarter	Cumulative
1983/84, quarter ending		
December 30, 1983	1.5	1.5
March 31, 1984	1.6	3.1
June 30, 1984	1.8	4.9
1984/85, quarter ending		
September 30, 1984	1.2	6.1
December 31, 1984	1.5	7.6
March 31, 1985	1.5	9.1
June 30, 1985	0.6	9.7
1985/86 quarter ending		
September 30, 1985	0.7	10.4
December 31, 1985	0.8	11.2
March 31, 1986	1.2	12.4
June 30, 1986	1.2	13.6
1986/87 quarter ending		
September 30, 1986	1.2	14.8
December 31, 1986	1.2	16.0
March 31, 1987	1.2	17.2
June 30, 1987	1.0	18.2
1987/88 quarter ending		
September 30, 1987	1.0	19.2
December 31, 1987	1.0	20.2
March 31, 1988	0.8	21.0
June 30, 1988	0.8	21.8
1988/1989 quarter ending		
September 30 1988	0.7	22.5

H. Environmental Impact

5.19 The proposed project should not have any measurable adverse effect on the Douala Port region. The transfer of fruit operations from the Bonaberi side, adjacent to the clinker berth, to the new multi-purpose berth on the Douala side should greatly improve the working environment for the stevedores engaged in fruit-loading operations.

VI. ECONOMIC EVALUATION

A. Traffic Analysis and Projections

6.01 General cargo traffic at Douala increased at about 10% p.a. between 1975 and 1980 and totalled about 2 million tons (para. 4.08). Following a temporary slow-down in 1981, the rapid traffic growth continued in early 1982 (para. 4.09). The rapid growth in general cargo traffic, particularly for imports, accompanied substantial growth in the Cameroon economy. As indicated in para. 2.01, GDP increased by an estimated 8.1% p.a. between FY1977 and FY1981. With continuing Government priority being given to agriculture and other productive sectors and with substantial increases in oil and gas production expected, the prospects for continued economic growth of at least 7% p.a., through the 1980s appear favorable.

6.02 Traffic projections for the Port of Douala through 1990 were originally prepared by French Consultants OCCR. Long-term traffic forecasts for the Port of Douala and other ports through the year 2000 were prepared by the Consultants BCEOM and OCCR in late 1980, in conjunction with a major study of the prospects for a new deep-water port in the southern part of Cameroon to help open up that part of the country. Taking into account these studies, NPA prepared traffic forecasts for Douala by major commodity through 1990, together with separate forecasts for containerized traffic. These forecasts are reasonable and were, with certain modifications, used for the economic evaluation. The modifications involved primarily the use of a somewhat faster rate of growth for the category "Other Imports" and considerably more conservative forecasts for certain future exports, particularly for fruit, logs and the category "Other Exports." The general cargo traffic forecasts are summarized below and indicated in more detail in Annex 4, Table 6.1.

Port of Douala General Cargo Traffic
Actual and Forecast, CY 1980-1990
('000s tons)

	Actual		Forecasts		
	1980	1981	1985	1988	1990
General cargo imports	1,164	1,211	2,053	2,705	3,234
General cargo exports	837	781	951	1,044	1,111
Total	2,001	1,992	3,004	3,749	4,345

These forecasts imply an average annual growth rate between 1980 and 1990 of 11.0% p.a., for imports and 2.9% p.a., for exports, showing an overall average of 8.1% p.a. These growth rates are considered realistic and perhaps somewhat conservative. The comparable average annual growth rates for 1975-1980 were 13.0%, 7.3% and 10.1% p.a., respectively, when GDP was growing only marginally faster than what is expected during the 1980s. If gas and petroleum revenues were used mainly for increased purchases of foreign consumer or capital goods, imports would increase faster than envisaged.

6.03 Some uncertainty exists with regards to the future development of banana exports: Between 1973 and 1979, exports averaged 70,000 to 80,000 tons, but fell to 64,000 tons in 1980 (Annex 4, Table 4.1) and to 58,000 tons in 1981 due to drought and plant diseases. Inland transport and the loading facilities have also been problem areas. The Government is aware that measures need to be taken to revitalize the industry and has already taken some steps including: (a) a study by French experts to determine ways to improve inland transportation from banana plantations to the Douala Port; and (b) the early 1981 management shake-up of the Cameroon Banana Organization (OCB). Some thought is also being given to irrigation to improve quality and quantity and reduce seasonal fluctuation in production. Marketing is not considered a constraint due to the existing marketing arrangements which guarantee the Cameroon a quota in France at favorable prices. Improvements to the port facilities are, however, important for any recovery and expansion as assumed by the Consultants and NPA. The Consultants assumed that banana exports would recover and stabilize at about 80-90,000 tons along with 10-20,000 tons of pineapples, for a total fruit export volume of about 100,000 tons. These forecasts are much lower than NPA's latest forecasts. For this report, a lower, constant banana export figure of 50,000 has been used together with 20,000 tons of pineapples for a total fruit tonnage of 70,000.

6.04 As indicated in para. 4.11, container and ro/ro traffic have been increasing rapidly in recent years. For their traffic forecasts and analysis of general cargo berth utilization and ship-waiting time, the Consultants projected container and ro/ro traffic through 1990. These appeared overly conservative to NPA who, based on a commodity-by-commodity analysis, prepared new forecasts for container traffic through 1985. According to these forecasts, the container volume projected by the Consultants for 1990 might be achieved as early as 1985. For the Port Simulation Model (PORTSIM) analysis of the general cargo berth utilization and ship waiting by the Bank, NPA's projected extent of containerization was broadly used and extended to 1990. According to these forecasts, containerized traffic would increase from about 21% of all general cargo traffic in 1980 and 27% in 1981, to about 41% in 1985 and 55% in 1990. Without the existing excess capacity of the container terminal and the expected increase in the share of containerized traffic in the increasing general cargo traffic, additional general cargo capacity would have been required earlier and at the rate of about one new berth per year. The addition of the two multi-purpose berths are required by CY1985. Depending on the traffic growth, the degree of containerization, and the improvements in cargo-handling productivity at the container terminal, the addition of a third container berth will be needed by about CY1988. As indicated earlier (para. 5.14), NPA therefore has included in the civil works bid documents an option for construction of one additional container berth, expected to be completed by 1988. NPA has also requested its inclusion in the proposed project, subject to confirmation of its justification on the basis of updated traffic and productivity data. By avoiding double mobilization and the need for construction of a return wall, this approach results in lower

construction costs than if tendered separately; the incremental cost of the container berth, without price contingencies but including physical contingencies, is about US$4.2 million. The incremental justification for the third berth is discussed further in para. 6.11. It was assumed that all full container vessels, part of containerized traffic by multi-purpose vessels and all ro/ro traffic would be handled at the specialized container and ro/ro berths, that the two multi-purpose berths would handle both containerized general cargo, including fruit and that the remaining traffic would be handled at the existing general cargo berths. For the economic analysis, traffic volume beyond 1990 was kept constant as additional port capacity could then be needed.

B. Project Benefits

Container and Multi-purpose Berths and Related Equipment and Services

6.05 The quantified benefits from these items include:

(a) reduced ship-waiting times for general cargo vessels, including multi-purpose vessels, as well as full container vessels due to increased port capacity -- the project item is not assumed to affect general cargo handling productivity significantly and no benefits from reduced general cargo ship service times were therefore considered;

(b) reduced ship service times for reefer vessels loading bananas or pineapples;

(c) reduced damage to banana cargoes and hence greater returns to banana exporters as the price for bananas varies with the quality of the fruit at unloading.

Benefits which have not been quantified include greatly improved working conditions for dockers loading fruit, avoidance of the extra cost to ship owners from clinker dust, some reduction in ship waiting of clinker vessels which may be able to use the vacated banana berth in anticipation of discharging clinker or for final clean-up[1/] and supplemental employment generated during project construction.

6.06 PORTSIM was used for estimating general cargo ship-waiting time costs as well as reefer service time and ship-waiting costs using an average daily cost of $9,000 per day for reefer vessels and $8,000 for general cargo vessels; $9,500 for multi-purpose vessels carrying substantial quantities of containers and $13,800 for full container vessels. Reefer vessels could load up to 2,000 tons in 36 hours as

1/ Additional investment would be required by CIMENCAM before the berth could be used for discharging clinker.

compared with the present loading rates of about 75 hours, taking into account a new conveyor loading system and ventilated storage for buffer stock provided under the project. For general cargo vessels it was assumed that productivity would continue to improve moderately, from about 560 tons per vessel day in 1981 to about 650 tons per day in 1985 and 700 tons in 1988. For full container vessels using ships gear the productivity was assumed to improve from about 2,300 tons per day in 1981 to about 3,000 tons in 1988. These productivity rates are considered reasonable. The same general cargo productivity figures were used with and without the project.

6.07 The estimate of potential benefits from reduced damage to fruit cargoes from the transfer to the new multi-purpose facility with improved cargo-handling equipment and ventilated storage is based on: (a) an export volume of 50,000 tons of bananas; (b) average prices on the French market in 1980 by category based on quality characteristics; and (c) details of the share of Cameroonian bananas sold in France in 1980 by category as well as assumptions regarding the possible increase in the relative share of the higher quality by categories as a result of better port facilities and less damage to the fruit during waiting and loading.

6.08 For the economic analysis, it has been assumed that all benefits from reduced reefer service times and costs, as well as the reduced damage to bananas, and hence higher prices would accrue to Cameroon. This assumption is reasonable since bananas are sold on a commission basis in the importing countries rather than on a f.o.b. basis. Thus, both the freight costs and the effects of lower banana quality and price are borne by Cameroon. In the case of reduced general cargo ship-waiting costs, it has been assumed that only 60% of these benefits would accrue to the Cameroon, resulting from the further assumption that national flag vessels will carry at least 20% of the general cargo trade with all benefits accruing to Cameroon but that only 50% of the avoided ship-waiting costs to foreign ship-owners will be recaptured by Cameroon through avoided surcharges or freight increases and through increased port charges (para. 7.06). The share would be greater if Cameroonian vessels carried a greater share, such as the 40% mentioned in the United Nations Convention on a Code of Conduct for Liner Conferences. The resulting cost and benefit streams are summarized in Annex 4, Table 6.2. The capital costs include physical contingencies.

New Tug and Navigational Assists

6.09 The Port of Douala has two boats: (a) one is six years old with an engine of 1,200 hp but an effective power of only about 850 hp due to a stability problem; and (b) one twenty-year old vessel with an engine of 950 hp. The second tug is approaching the end of its economic life. Furthermore, the relatively modest horsepower of the tugs makes for difficult maneuvering of the larger vessels, taking into account the currents and wind as well as the relatively restricted turning basin, particularly for tankers and dry bulk vessels. According to NPA, at present the tankers and dry bulk vessels lose about 2 hours for berthing/unberthing due to tug limitations; similar losses occur to about

60% of the general cargo vessels while another 10% may lose up to 12 hours. In addition, about 10% of the vessels lose about one hour waiting for tugs for shifting. The main quantified benefit from the acquisition of the new, more powerful (1,700 hp) tug will therefore be reduced ship waiting and berthing/unberthing times. An additional benefit, which has not been taken into account in NPA's analysis, is the savings in all or part of the operating costs of the existing old tug which would be at least partly replaced by the new tug.

6.10 The electronic positioning equipment and upgrading of existing buoyage at the entrance channel to Douala will improve navigational safety as well as dredging efficiency. Due to their small investment cost and significant benefits, a separate economic evaluation was not carried out.

C. Economic Return and Sensitivity Analysis

Container and Multi-purpose Berths and Related Equipment and Services

6.11 On the basis of projected general cargo traffic and productivity, the quantified benefits discussed in Section B above, estimated capital costs (including physical contingencies), maintenance/operating costs and a 20-year economic life, these project items (representing about 73% of the project cost) would yield a rate of return of 34% and a FYB of 22% with a 12% cost of capital. Even if all the benefits related to avoided damage to fruit and reefer ship waiting and service reductions were excluded, the project would yield a rate of return of 29% with a FYB of 17%, which is satisfactory. The incremental FYB for the optional third berth is 17% in 1988 based on the best assumptions for traffic growth, degree of containerization and productivity. The incremental economic rate of return (ERR) for the third berth would be 34%. If traffic levels were to be 10% lower than forecast or if productivity at the container terminal were to be 5% higher than foreseen, the FYB for the optional berth would fall to 7% or 13% in 1988 respectively. Taking into account the fact that the cost of construction of the berth would be higher if construction were deferred and carried out separately (para. 6.04), as well as the satisfactory incremental rate of return for the berth, it is considered appropriate to include the third berth in the proposed project. However, in light of the justification's sensitivity to lower traffic growth and higher productivity, disbursements for this berth would be subject to confirmation, satisfactory to the Bank, that the berth remains economically justified.

Tugboat

6.12 The economic analysis prepared by NPA takes into account the acquisition cost of the new tugboat and its full operating and maintenance costs on the one hand and the reduced ship waiting and berthing/unberthing times and costs based on existing conditions on the other. On this basis the ERR is estimated at 18%. The analysis is conservative as it does not take into account the savings of at least

part of the operating and maintenance costs of the old tug and the fact that waiting and berthing/unberthing times and costs without the new tug would have increased substantially as the old one became less and less useful and the Port would basically be left with one tug.

Combined

6.13 The ERR for the project as a whole, including the costs and benefits from the two multi-purpose berths with related equipment and the tug as well as the costs of data processing, navigational aids and technical assistance, but without counting any benefits from these items would be 27%, and 24% if the benefits related to fruits are excluded. These rates of return exclude benefits assumed to accrue to foreign shipping lines. The sensitivity of the rate of return to more pessimistic assumptions on key variables were tested. The main results are indicated in Annex 4, Table 6.3 and are satisfactory. The project is therefore considered well justified.

VII. FINANCIAL EVALUATION

A. Past and Present Situation

7.01 Since 1976, NPA has followed the financial policy agreed under the Second Port Project, whose main characteristic was to significantly raise cash generation for servicing rising interest on the debts incurred for financing the port extension. NPA's nominal contribution to investment was anticipated to decline, because the annual amount of investment was expected to decrease substantially after the opening of the new facility in FY1980. However, the actual activity level of the Port has been somewhat higher than projected and further capacity extensions have been needed since FY1980. Therefore, NPA's principal problem at present is to further raise its cash generation for backing its development plans.

7.02 Tables 7.1-7.6 in Annex 4 show NPA's and Douala Port's balance sheets, sources and applications of funds, and income statements for FYs1975-1982. A summary of the tables follows for FY1976-1982:

Summary of NPA's Financial Statements, FY1976-1982
(in million CFAF)

	FY1976	FY1978	FY1980	FY1982
Income Statements				
Operating revenue	2,180	3,584	5,322	8,781
Working expenditures	1,441	2,267	3,238	4,863
Cash generated from operations	739	1,317	2,084	3,918
Depreciation	652	814	1,377	2,199
Interest	2	151	942	1,369
Net profit (loss)	71	352	(235)	429
Working ratio	.66	.63	.61	.55
Debt service coverage ratio	-	9.1	2.2	1.87
Balance Sheets				
Net fixed assets	9,639	21,153	39,010	47,384
Equity	10,625	12,646	17,236	20,413
Long-term debt	365	9,502	23,267	25,700
Net working capital	1,351	995	1,493	(1,271)
Net current assets (excluding cash)	469	614	818	(825)
Cash	882	381	675	(446)
Debt equity ratio	3/97	43/57	57/43	56/44
Rate of return on fixed assets	.7	3.0	2.1	4.0
Sources and Applications of Funds				
Applications				
Capital investment	922	9,562	10,283	3,803
Debt service	2	151	1,067	2,011
Total applications	924	9,713	11,350	5,814
Sources				
Cash generated from operations	739	1,317	2,084	3,870
Grants and subsidies on investments	165	1,255	2,373	1,040
Long-term borrowing	370	8,699	8,163	1,151
Total sources	1,274	10,166	12,620	6,061
Increase in working capital (dec.)	820	876	1,219	481
Cash increase (decrease)	(470)	(423)	(51)	(234)

7.03 The main change in NPA's situation has been the need, since FY1976, for a higher cash flow to cover interest on long-term debt which was close to zero in FY1976 and CFAF 1,369 million in FY1982. This increase was anticipated as early as 1976 and its actual amount is in keeping with the projections made under the Second Port Project.

7.04 NPA's cash generation has increased sufficiently in the past to cover its debt service. It was CFAF 739 million in FY1976 (34% of revenue) and reached CFAF 3,918 million in 1982 (44% of revenue). The observed improvement is attributable to productivity gains and to timely tariff increases.

7.05 Revenue increased by 302% from 1976 to 1982 (26% per annum). This increase is attributable to traffic increases of 96% (11.9% per annum) and tariff adjustments of 105% over six years (25% in real terms). Port revenues are based on the tonnage of merchandise imported and exported, on the number and size of ships, and on the berth occupancy. In the past, these statistics showed dissimilar trends: tonnage increased by about 11.9% per year; average ship size increased moderately from 8,317 tons gross weight in 1976 to 9,245 tons in 1982; ship number increased slightly from 1,328 to 1,391 during the same period of time, and berth occupancy was about constant with 3,920 days in FY1976 and 4,256 days in FY1982. The stagnation of berth occupancy and number of ships is attributable to the 71% increase in average ship load and to the increase in cargo handling productivity. Therefore, with constant tariff, NPA's revenue would have increased only on merchandise, while other categories of revenue would have stagnated. In order to compensate for these changes in the traffic structure, tariffs were selectively raised: moderately on merchandise (about +48%) and more significantly against ship (about +187%). The price of rentals, which was insufficient in 1976, has been also increased significantly by about 160%.

7.06 During the 1976-1982 period, NPA's tariff structure has thus significantly improved. However, it reflects mainly the direct cost of services, excluding depreciation on all operational assets, interest, and overhead expenses. During negotiations, NPA has accepted to include in the Financial Action Plan, a revision of its tariff structure based on full costs, including depreciation on all operational assets, interest and a sufficient contribution to overhead expenses.

7.07 Working expenses increased less than revenue (237%, or 22% per annum), from 1976 to 1982. This increase was reasonable, considering the 72% inflation during the same period and the 96% traffic increase. The constancy of the total number of staff in combination with the increase in traffic during the period indicates that staff productivity gains were substantial, but the most recent indications suggest that these economies of scale may have come to an end. Therefore, additional efforts have to be made to control staff numbers and costs. Staff number and cost will be controlled through: (a) improved manpower planning (para. 3.07); and (b) modification of the annual salary increase system, so as to replace the present automatic merit increase by a differentiated increase depending on individual performance, as evaluated through the personnel evaluation and grading system to be implemented under the proposed project (para. 3.08). NPA has agreed, as part of the Financial Action Plan, to limit total average salary increases resulting from promotion and seniority to 3% per annum starting in FY1984. Technical assistance is provided under the proposed project for these purposes (paras. 3.08 and 3.14).

7.08 As a consequence of the trends in revenue, costs and interest on long-term debt, NPA's self-financing capacity after debt service payment, available for investment financing and raising working capital on its own funds, has moderately improved from CFAF 737 million in FY1976 to

CFAF 1,993 million in FY1982. This increase in nominal terms corresponds to a stagnation in real value, which was foreseen under the Second Port Project, as the main NPA investment program was expected to be completed by FY1979, and therefore no increase in NPA's self-financing capacity in real terms for FY1979-FY1982 was anticipated by that time. However, as a result of the recent trends in traffic, and the good prospects for future developments, NPA accelerated its investment plans. Therefore, NPA's cash generation must be raised significantly to meet future debt service and self-financing requirements (para. 7.20).

7.09 NPA's investments in fixed capital for the FY1976-1982 period amounted to CFAF 47.1 billion and were generally supported by adequate financial studies. The investments included mainly the second Douala Port Project, in addition to which NPA spent about CFAF 21 billion for the rehabilitation of the old port and miscellaneous operations, which were generally justified, financed mainly from external funds. Over the FY1976-FY1980 period, NPA's contribution to investment declined from 42% in 1976 to zero in 1980, while capital investment was increasingly being financed from the Government's contribution and subsidiarily, from short-term resources. Since FY1980, NPA has succeeded in raising its contribution to about 22% in FY 1982. In the future, the recent trend should be amplified, and the financial autonomy and working capital of NPA restored (See Financial Action Plan, Annex 5B and paras. 7.22-7.23)

Summary of NPA's
Investment Financing Policy 1976-1980
(cumulative in million CFAF)

Applications	
Capital investment	47,187
Financing	
Subsidies and grants	9,134
Long-term loans	27,842
NPA's contribution	10,211
% NPA	21%

7.10 Total long-term sources of funds (including NPA's cash generation, long-term borrowings and subsidies from the Government) were lower than total long-term applications of funds (including capital investment and debt service) over the FY1976-FY1982 period (CFAF 48,917 million, as compared to CFAF 51,363 million) (Annex 4, Table 7.3). Hence, NPA's working capital decreased alarmingly from CFAF 1,498 million in FY1975 to minus CFAF 1,271 million in FY1982.

7.11 Moreover, NPA's management of net current assets (excluding cash) has contributed to worsen its liquidity situation: commercial receivables increased significantly from CFAF 613 million in FY1976 to CFAF 2,267 million at the end of FY1982, equivalent to three months of revenue, despite recent improvement in the billing and collection system. As part of the Financial Action Plan, NPA has agreed during

negotiations to pursue its efforts and to strengthen the authority of the operational department--which is in closer contact with the customers--for charge collection. This move will permit the level of commercial receivables to be reduced from three months of revenue to two months by June 30, 1984. This target is included in the Financial Action Plan.

7.12 The combination of increasing commercial receivables and financing part of the capital investment from short-term resources has resulted in a very tight cash situation, whereby, as of June 30, 1982, NPA had a CFAF 446 million overdraft. NPA's future financial policy should improve this situation (para. 7.22).

B. Future Situation

7.13 In order to determine under which conditions NPA will be in a position to generate the cash required to finance its long-term investment plan and restore its cash situation, the financial tables (Tables 7.7-7.9 in Annex 4) have been prepared in current CFAF. Assumptions for future prices and traffic are shown in Annex 4, Table 7.10. Subsidiary tables have been prepared for the Douala Port alone and are contained in the project files.

7.14 Determining factors for the future financial situation of NPA are as follows:

(a) Traffic will continue to increase rapidly, sustained by Cameroon's good growth prospects and increasing oil revenues. A growth rate of 9.3% p.a. for total traffic (4.2 million tons in 1982 and 5.4 million tons in 1985) which has been forecast for the FY1982-1985 period (Annex 4, Tables 6.1 and 7.10), will prove decisive for expected improvements in NPA's financial situation;

(b) The most important basic infrastructure capacity extensions of the Port have been completed under previous projects. Future investment needs are expected to be fairly limited (about CFAF 5.4 billion p.a., Annex 4, Table 5.1). They should however be phased according to the actual growth in traffic, in order to permit an improvement in NPA's financial rate of return; and

(c) NPA's debt service will increase significantly starting in FY1983, because the grace period on major loans for the Second Port Project will terminate and because of the increase in interest rates on future loans. This increase will put a constraint on NPA's borrowing capacity.

7.15 In view of these factors, NPA's financial policy must aim at:

(a) raising its cash generation to service its substantial debt resulting mostly from past investment, and to finance the necessary increase in its working capital;

(b) improving the management of its commercial receivables, to further improve its liquidity; and

(c) avoiding excessive increase in long-term debts, and consecutive additional debt service, by raising NPA's capital investment self-financing rate.

Raising Cash Generation

7.16 In order to meet the objectives mentioned above, cash generation must soar from CFAF 3.9 billion in 1982 to CFAF 7.4 billion in FY1985 and 9.6 billion in FY1987. It will require that revenue growth reaches 68% (18.9% per annum) between FY1982 and FY1985, while working expenses would only increase by 52% (14.9% per annum). This forecast increase in cash generation from operations is, however, a continuation of past performance, and is feasible under projected traffic increase and acceptable tariff adjustments.

7.17 The 68% increase in revenues between FY1982 and FY1985 will result from tariff adjustments for about 46%, and from traffic growth for about 15%. Of the 46% tariff increase, 39% will be due to price increases, and about 5% to limited tariff increase in real terms. A 16% tariff increase, equivalent to a 5% increase above inflation, to be effective in FY1983, is necessary to allow NPA to improve its cash situation. The principles for future tariff increases was agreed during negotiations and incorporated in the Financial Action Plan and in the guarantee Agreement. The 15% increase in revenue due to growth in traffic corresponds to a high 30% tonnage increase, but is partially offset by a declining average ship-berthing time (from 3.1 days in FY1982 to about 2.8 days in FY1985) because of productivity increases.

7.18 The significant 52% increase in working expenditure during the FY1982-FY1985 period is due: (a) for 33% to the effect of anticipated increases in international prices averaging 9% per annum and in domestic prices averaging 11% per annum, together with annual salary increases slightly above inflation; and (b) for 14% to the effect of increasing port activity on working expenses. However, a reasonable 2.5% annual staff productivity increase was also taken into account, as a result of the effort to be undertaken by NPA in this respect.

7.19 The CFAF 6.4 billion cash generation objective for FY1984 (CFAF 8.7 billion for FY1986) corresponds to a working ratio of approximately .50 from FY1984 onward. Target values of respectively .52 and .50 are included in NPA's Financial Action Plan (Annex 5), as agreed upon during negotiations. Financial forecasts are summarized below and detailed in Annex 4, Tables 7.7 to 7.10.

Summary of NPA's Projected Financial Statements
(in CFAF millions)

	1982	1984	1986
Income Statements			
Operating revenue	8,781	12,936	17,090
Working expenditures	4,863	6,515	8,351
Cash Generated from Operations	3,918	6,421	8,739
Depreciation	2,199	3,135	4,034
Interest	1,369	1,537	2,484
Net Result on Operations	429	1,913	2,404
Working ratio	.55	.50	.50
Debt service coverage ratio	1.87	2.62	2.22
Balance Sheets			
Net fixed assets	47,384	62,845	71,059
Equity	20,413	31,915	35,525
Long-term debt	25,700	30,582	36,664
Net Working Capital			
Net current assets (excluding cash)	(825)	(366)	374
Cash	(446)	18	757
Debt equity ratio	56/44	51/49	51/49
Rate of return on revalued fixed assets (%)	3.7	4.5	4.9
Sources and Applications of Funds			
Applications			
Capital investment	3,803	12,997	7,815
Debt service	2,011	2,441	3,934
Total Applications	5,814	15,438	11,749
Sources			
Cash generated	3,870	6,309	8,553
Grants and subsidies on capital investments	1,040	4,025	30
Long-term borrowing	1,151	5,571	4,121
Total Sources	6,061	15,905	12,703
Increase in working capital (dec.)	481	575	446
Cash increase (dec.)	(234)	(99)	509
Cash balance at end of year	(446)	18	757

7.20 With the investment plan described in Chapter V and in Annex 4, Table 5.1, NPA will have, after servicing the debt, a rapidly increasing self-financing capacity amounting to CFAF 1,859 in FY1982, CFAF 3,868 million in FY1984 and CFAF 4,590 million in FY1986. This self-financing capacity must be used: (a) to increase NPA's share in future investment

financing in order to limit its debt service increase; and (b) to meet its working capital and cash needs.

Improving Cash Situation and Working Capital

7.21 NPA's net short-term assets, including cash are insufficient, and even negative, imposing unnecessary budgetary constraints on operations. They are expected to increase by CFAF 1,199 million, from CFAF -825 million in FY1982 to CFAF 374 million in FY1986. NPA will contribute these CFAF 1,199 million from its self-financing capacity. NPA has agreed during negotiations to include in the targets of its Financial Action Plan, the reduction of commercial receivables to two months of revenue. These measures will permit NPA to wipe out its bank overdraft by the end of FY1983 and to maintain its cash at a sufficient level (CFAF 757 million by the end of FY1986). NPA agreed to include in its Financial Action Plan the elimination of overdrafts by December 31, 1983, except for short periods.

Increasing NPA's Contribution to Capital Investment

7.22 NPA's contribution to future capital investment must be raised starting in FY1982 in order to limit the increase in NPA's debt service and to avoid the decrease of its debt service ratio below the 2.0 level by FY1986. With the projected increase in cash generation and improvement in the management of NPA's working capital, NPA's contribution to future capital investment can be raised from 26% in FY1982 to 37% from FY1986 forward. A 17% contribution for FY1984 and a 40% contribution from NPA to its capital investment by FY1986 were agreed upon during negotiations and included in NPA's Financial Action Plan (Annex 5).

Financing of Capital Investment, FY1982-FY1986
(in millions of CFAF)

	1982	1984	1986
Capital investment (less force account)	2,961	11,959	6,559
New borrowing	1,151	5,571	4,121
Government contribution	1,040	4,025	30
NPA's contribution	770	2,363	2,408
NPA's contribution % of capital investment	26%	20%	37%

7.23 In order to prevent NPA's debt service from increasing excessively, NPA agreed during negotiations to present its five-year investment and financing plan for Bank review (para. 5.06). This investment plan must include future acquisitions and equipment to be utilized under leasing agreements. Furthermore, to ensure NPA's financial viability, NPA agreed during negotiations not to incur any debt or leasing commitments, without Bank's agreement, unless its debt service ratio for the previous fiscal year is greater than 1.8. In addition, NPA will not,

without prior consultation with the Bank, carry out any investment other than those listed in Part A of the investment plan except with respect to items not exceeding in the aggregate the equivalent of CFAF 300 million within a 12-month period.

Rate of Return on Net Fixed Assets and Profitability

7.24 Under the projected traffic increase, the investment plan and financing policies outlined above, NPA's net result will notably improve and increase from FY1983 onward. It will reach a satisfactory level of CFAF 1,809 million in FY1984 and CFAF 2,218 million in FY1986. The corresponding rate of return on net revalued fixed assets will improve from a 3.7% value for FY1982 to 4.9% from FY1986. A 4.5% target rate of return on revalued net fixed assets from FY1983 to FY1985, and 5.5% from FY1986 onward was agreed upon during negotiations.

VIII. AGREEMENTS AND RECOMMENDATIONS

8.01 The following agreements were reached during negotiations:

(a) The Government and NPA agreed:

(i) To consult with the Bank before finalizing any arrangements whereby a third party would participate in the ship repair yard activities (para 3.06);

(ii) That NPA's revalued fixed assets will be incorporated in a separate set of financial statements to be presented to the Bank annually, and that related estimates be updated annually (para. 3.12); and

(b) NPA agreed:

(i) To submit to the Bank for review by March 31, 1984 a plan for future maintenance dredging (para. 1.02);

(ii) To the Action Plan for Organizational Development, and to implement it in accordance with the agreed time schedule (paras. 3.03, 3.04, 3.07, 3.14 and 3.15);

(iii) To continue to submit to the Bank audited financial statements within six months after the end of each fiscal year (para. 3.12);

(iv) To make available to the Bank by September 30, 1983 for agreement, the results of the review of

the existing data processing system and the long-term plan for data processing as prepared by the consultant employed by NPA (para. 3.18);

(v) Not to acquire container cranes except with justification acceptable to the Bank (para. 5.06).

(vi) To submit to the Bank for comment by December 31, 1985 the report on the dredging study dealing with maintenance and capital dredging of the Port of Douala and the entrance channel (para. 5.06);

(vii) To appoint consultants, on terms and conditions satisfactory to the Bank, for project implementation (paras. 5.13, 5.14);

(viii) To the measures set out in the Financial Plan of Action and to implement these measures in accordance with the agreed time schedule (paras. 7.11, 7.17, 7.21-7.23);

(ix) Not to incur any financial commitment (borrowing or leasing) during the project disbursement period, without the Bank's agreement if its debt coverage ratio--defined as cash generation divided by the debt service for the same year--has been below 1.8 for the preceding fiscal year (para. 7.23);

(x) Not make investments other than those included in Part A of the investment plan in excess of CFAF 300 million within a 12-month period without prior consultation with the Bank (para. 7.23); and

(xi) To adjust tariffs so that the rate of return on revalued net fixed assets will be about 4.5% from FY1983 to FY1985, and 5.5% from FY1986 onward (para. 7.24).

8.02 As conditions for disbursement of funds for data processing hardware and software as well as for fruit-handling equipment, NPA agreed to submit a long-term data processing plan satisfactory to the Bank (para. 3.18) and the Government and NPA agreed to give the Bank satisfactory assurances that the fruit-handling equipment will be used for the intended purpose (para. 5.16). Disbursements of funds for the third berth will be subject to confirmation, satisfactory to the Bank, that it remains economically justified (paras. 5.16 and 6.10).

8.03 The proposed project is suitable for a loan to NPA of US$22.5 million equivalent on standard Bank terms.

CAMEROON

THIRD DOUALA PORT PROJECT

Past Bank Group Activities in the Transport Sector

Over the past ten years, the Bank Group has loaned Cameroon nearly US$259 million for the transport sector: US$70.5 million for railway projects, US$26.5 million for port projects, and US$150.3 million for highway construction and maintenance projects, and US$11.0 million for a feeder road project. The transport sector represents the second largest share (43%) of the Bank's past commitments in the Cameroon, closely following the agriculture sector (44%).

First Railway Project (Loan 687-CM, US$5.2 million, 1970)

Track renewal and rehabilitation, new freight cars and spares, reconstruction of the Japoma Bridge, and consulting services for the Douala-Yaounde realignment were provided by this loan. Financial covenants were not met due to overestimates of potential productivity and traffic volumes, and underestimates of staff costs. The rolling stock, track and consulting services components were executed satisfactorily. The bridge reconstruction ran into technical difficulties which had to be resolved under the Second Railway Project (Loan 1038-CM).

First Highway Project (Loan 663/Credit 80-CM, US$19.9 million, 1970)

The project included construction of the Ngaoundere-Garoua and the Tiko-Victoria Roads, feasibility studies and final engineering of the Garoua-Mora and Douala-Kekem Roads. Engineering problems with the drainage design resulted in construction delays which led to cost overruns due to inflation. These were borne by the Government. The Project Performance Audit Report (No. 1574, April 29, 1977) for the project concluded that, in addition to reducing delays in project implementation, the Government should better coordinate transport activities. Improvements are being carried out partially under the Technical Assistance Project and the Third and Fourth Highway Projects. The transport sector study to be carried out under the Fifth Highway Project will also be designed to achieve this objective.

First Douala Port Project (Credit 229-CM, US$1.5 million, 1971)

The project provided for an industrial quay at Bonaberi and improved log handling facilities at Douala. Operating costs increased more rapidly than projected and target operating ratios were not met in addition to a number of other credit covenants. The physical execution of the project was satisfactorily completed in 1974 with some delays. The Project Performance Audit Report (No. 1604, May 24, 1977) for the

project concluded that, despite a two-year delay in the completion of the works (due in part to Government procedures for prequalifications of tenderers and contract awards), the project has succeeded in removing serious bottlenecks in the Cameroon's port capacity. It also concluded that the project had contributed significantly to the definition of a long-term port development strategy, including improvements in the institutions concerned and in the financial situation (even though the covenanted financial objectives were not fully achieved).

Second Highway Project (Loan 935/Credit 429-CM, US$48 million, 1974)

The project covered the construction of three roads to paved standards: (a) Pont du Noun (Bafoussam)-Foumban Road (50 km); (b) Figuil-Mora section (163 km) of the Garoua-Mora Road; and (c) Douala-Kekem Road, a road maintenance study and technical assistance. The road maintenance study and reconnaissance study of forest evacuation roads were completed in May and December 1978, respectively. The roads were completed satisfactorily by July 1978 with the exception of the Garoua-Figuil Road (95 km) which the Government agreed to postpone. The cost of the project doubled due to inflation in 1973/74. A supplementary credit of US$15.0 million was approved in March 1976 to help alleviate the burden imposed on the Government by the project's cost overrun.

Second Railway Project (Loan 1038-CM, US$16.0 million, 1974)

Additional rolling stock and equipment, partial financing of the reconstruction of the Japoma Bridge, track renewal and consulting services were included under this project. Difficulties at the bridge site have been resolved but due to recession of the timber market, financial targets were not met. Exchange depreciation has necessitated supplementary financing for part of the equipment and the consulting services under the Third Railway Project.

Third Railway Project (Credit S-4 CM, US$2.3 million, 1976)

The project included a feasibility study and detailed engineering for the Douala Station and marshalling yard, as well as financing for part of the equipment and the consulting services from the Second Railway Project. The feasibility study, detailed engineering for the new station, and design study for the running shed and maintenance facilities were completed satisfactorily. Additional technical assistance is needed to fully implement the consultants' recommendations. This engineering credit has been refinanced under the Fourth Railway Project. The Project Performance Audit Report on the Second and Third Railway Projects (No. 3056, June 30, 1980) concluded that the projects' purpose was largely achieved but that the re-estimated economic rate of return is 10% against 13% estimated at appraisal due to shorter useful life of track, renewal works and lower than expected productivity of rolling stock. Compliance was met on most of the loan covenants, but the financial targets were not fully met because of rapidly rising costs and lower than expected traffic.

Second Douala Port Project (Loan 1321/Credit 657-CM, US$25.0 million, 1976)

The principal components of the project are: a new fishing port and ship repair facility upstream from the existing port, a new log port and two container and one Ro/Ro berths downstream with scope for future expansion, and channel dredging. Construction was started in December 1976 and completed in 1982. The higher total cost for the project was covered by financing from NPA and the Government. The loan and the credit have been fully disbursed. The only remaining work will be to complete the dredging of the entrance channel. Maintenance dredging will be quantified only after the channel dredging is finished, and the channel hydraulics, suspended materials and density currents reach a state of equilibrium. The level of siltation may be higher than expected at appraisal which may increase maintenance dredging costs. At present consultants are studying the situation.

First Technical Cooperation Project (Credit 673-CM, US$4.5 million, 1977)

The project consists of advisory consultants' services to the Ministries of Economic Affairs and Planning, Agriculture, Transport, Equipment, Energy and Mining for investment planning, policy analysis and project processing. In the transport sector the project provided one economist/planner in the MOT and a second economist/planner in MINEP who have finished their assignments.

First Feeder Road Project (Loan 1494-CM/Credit 749-CM, US$11.1 million, 1977)

The project includes establishing a Central Feeder Roads Unit within the Department of Highways and a four-year program of construction, improvement, rehabilitation and maintenance of about 2,000 km of feeder roads, including equipment purchase and operation, office and workshop construction and staff training in equipment operation and labor-intensive methods. The project's implementation is behind schedule because the organization in charge of the feeder roads is understaffed and because of shortages of local funds. The Government has submitted a satisfactory modified program for the execution of the project, reflecting the considerable increase in construction costs of the feeder roads.

Third Highway Project (Loan 1515-CM, US$16.5 million, 1978)

The main component of the project, the construction of the Garoua-Figuil Road to paved standard, was completed in 1979. Technical assistance to the MOT helped carry out an origin-destination survey with the first phase having been completed in September/October 1980 and the final phase in mid-1981 and also provided a transport advisor. A US$5.6 million cost overrun, mainly due to exchange rate fluctuations, has been covered by the Government. The Project Completion Report for the Second and Third Highway Projects (July 17, 1980) concluded that the impact of the substantial increase in project cost on the economic benefits was considerably expiated by a larger than expected increase in traffic using the roads. The re-estimated rates of return for the two projects were

about the same as expected during appraisal (20%). The Project Completion Report also noted that progress in developing transport-related institutions has been slow compared with considerable progress made in upgrading the land transport system over the last decade.

Fourth Highway Project (Loan 1723/Credit 926-CM, US$48.0 million, 1979)

The project includes a training program for staff and workers for road maintenance, maintenance of about 17,000 km of roads and rehabilitation of 1,700 km through force account and domestic contractors, technical assistance to the domestic construction industry, two permanent weighing stations, and pre-investment studies for the Fifth Highway Project and forestry evacuation roads. Implementation of the project although delayed by about one year is satisfactory.

Fourth Railway Project (Loan 1734/Credit 936-CM, US$47.0 million, 1979)

The project includes construction of the marshalling yard, track and rolling stock, civil works, training equipment, consulting services and refinancing of Credit S-4 CM. The project became effective January 1980. Civil works at Douala Station are progressing satisfactorily although the final completion could be delayed by about 12 months due to unfavorable weather and unexpectedly poor soil conditions. Workshop modernization and some equipment procurement have also been delayed due to the late awarding of contracts. Implementation of the consultants' proposed improvements of administrative and managerial functions are progressing satisfactorily, although the retirement of the experienced Deputy Director-General has weakened the role of management.

Fifth Highway Project (Loan 2180-CM, US$70.0 million, 1982)

The project consists of: (i) the construction of the Edea-Yaounde Road (181 km) and the construction of new buildings for the National Civil Works Laboratory; (ii) consultants' services to supervise the road construction works, to prepare a national transport survey and to evaluate the paved road network; and (iii) technical assistance to the Ministry of Equipment, the Ministry of Transportation and to the laboratory. Because of administrative delays the period for making the loan effective has been postponed until January 25, 1983. However, the contractors and the supervising consultants for the road works have been selected, and the technical assistance to the Ministry of Equipment has started. Cofinancing for the road construction works is provided by the Kuwait Fund, Islamic Bank and Abu Dhabi Fund; the Governments of Canada and the Netherlands and private banks in the Netherlands to a total of US$91.5 million.

CAMEROON

THIRD DOUALA PORT PROJECT

The Transport System

Road Network and Road Transport

1. Cameroon, with about 65,000 km of roads, has an extensive network judging from the 0.14 km per km^2 road density which compares favorably with neighboring countries. 1/ However, paved roads account for only 4% of the total network and are concentrated around Douala, Yaounde and Garoua where the network is most developed. 2/ Elsewhere, large parts of the country are still isolated or served by the most rudimentary infrastructure. Beside the paved roads, all weather accessibility on the classified network, which totals about 32,800 km, is possible to some extent on the engineered national gravel roads. The rest of the classified network provides mainly dry season access. The unclassified network consists mainly of non-engineered seasonal tracks which are generally in poor condition and serve limited traffic. The evolution of the network is shown in the following table using the functional classification system adopted in March 1979:

	1972 (km)	1976 (km)	1980 (km)	% Average Annual Growth 1972-1980
Classified Network				
- Paved Roads	1,400	2,000	2,400	7.0
- Gravel and Earth Roads	19,500	24,300	30,400	5.7
National	1,000	2,000	4,200	19.6
Provincial	2,300	2,800	5,900	12.5
Departmental	2,200	5,700	6,100	13.6
Rural	14,000	14,800	14,200	--
- Total	20,900	26,300	32,800	5.8
Unclassified Network				
- Earth Tracks	22,000	28,000	32,000	4.8
GRAND TOTAL	42,900	54,300	64,800	5.3

Source: Ministry of Equipment, November 1980.

1/ Nigeria = 0.16 km/km^2, Chad = 0.02 km/km^2, Gabon = 0.02 km/km^2, Congo = 0.03 km/km^2 and CAR = 0.04 km/km^2.

2/ However, the density of paved roads is four times less in Cameroon (0.005 km/km^2) than in Nigeria (0.02 km/km^2).

2. The condition of the network varies from good to poor. The three dominant economic regions (northern, central and western) are connected by partly paved roads which frequently become impassable during the rains. Consequently, Yaounde in the central region may be isolated sometimes simultaneously from the agriculturally rich western highlands and from the Port of Douala, especially whenever the railroad is closed due to accidents, etc. Edea, located between the two cities, is an important industrial center and generates most of the country's electric power. Its economy depends on reliable access to Yaounde and Douala. The existing paved road between Douala and Edea (92 km) is in an advanced stage of deterioration and unmaintainable in its present condition. Construction of this section on a substantially shorter alignment started in 1980. The construction of the Edea-Yaounde section is therefore one of the Government's highest priorities and forms part of the proposed Fifth Highway Project.

3. The vehicle fleet is estimated at about 83,000 vehicles (excluding two wheelers). The trend in registrations reflects in general the increasing level of economic activity in the country. Overall, annual registrations increased from under 2,000 in 1960 to about 16,000 in 1978. The average annual growth over the last 18 years has been around 13%. High growth for vans and trucks reflects demand for freight transportation and the growth in the consumption of diesel fuel. About 59% of the fleet consists of passenger cars and is located mostly in the urban areas. Vans account for about 18% of the fleet while the rest (23%) consists of heavy vehicles.

4. The road transport industry is competitive and characterized mainly by many local firms owning one or a few trucks. Although the industry suffers from financial instability, it provides basic services and in general is growing in line with domestic demand.

5. Most freight requiring special handling is transported by either the larger trading houses hauling on own account or specialized firms. Parastatal companies such as SODE-COTON and Cameroon Development Corporation mainly haul on own account and operate sizable fleets of their own. Timber and petroleum are generally transported by the concessionaires although specialized domestic firms have entered the market. International freight to Chad and CAR is handled by domestic and foreign firms. Cameroon's bilateral quota for Chad is handled through affiliates of SOGETRANS. The increasing CAR traffic is less attractive to Cameroonian haulers, however, because of the poor road (500 km) between the border and Bangui.

6. As discussed in greater detail in the appraisal report for the Fifth Highway Project (Report no. 3473-CM), consumers in the Cameroon pay significantly more than the opportunity cost of either gasoline or diesel and the Government does not subsidize road users. Table 1 (reproduction of Table 2.4 of Report 3473-CM) provides information on retail prices of motor fuel in Cameroon while Table 2 (reproduction of Table 2.5) compares domestic retail and international petroleum product prices.

Railways

7. The railway, whose main lines are the Trans-Cameroon line (Douala-Ngaoundere, 913 km) and the western line (Douala-Nkongsamba, 160 km), are operated by the National Railroad Company of Cameroon (Regie Nationale des Chemins de Fer du Cameroon - REGIFERCAM), an autonomous state agency which is under the responsibility of the Ministry of Transport. The principal commodities carried are timber, petroleum products, alumina and other material for ALUCAM, construction materials, cotton, cocoa and manufactured imports. Between FYs 1973-1980, freight traffic increased steadily at an average annual rate of 8.5% in ton-km and 3.7% in tons carried. Freight traffic in FY1981 increased by 15% in ton-km. In FY1981 freight traffic exceeded 1.5 million tons over an average distance of 441 km, or 663 million ton-km. Over 99% of the tonnage was carried on the Trans-Cameroon line. Passenger traffic, on the other hand, showed a slow but steady decline in the same period and fell from over 1.7 million passengers in FY1973 to 1.2 million in FY1981.

8. REGIFERCAM is operating at a loss but steps are being taken to solve operational, managerial and financial problems. External donors are financing the track realignment between Douala and Yaounde, the oldest and most heavily used section, as well as the purchase of locomotives and rolling stock. The ongoing Fourth Railway Project provides, inter alia, a mechanism aimed at improving REGIFERCAM's operations, marketing, tariffs and finances. A Government committee recently submitted recommendations to improve the financial position of REGIFERCAM; these recommendations are still under consideration by the Government and their scope are therefore not yet known.

Ports, Shipping and Inland Waterways

9. Douala is the principal port, handling about 90% of Cameroon's foreign and transit trade. It is discussed in Chapter III and further in Annex 3.

10. Kribi is a sheltered lighterage and shallow quay port of 280 m located in the south, with traffic in agricultural and log exports, handling 7,530 tons of imports and 207,000 tons of exports, mainly log from nearby areas, in 1980. It has a 7,000 m^2 log park and 11,000 m^2 storage area, of which 8,800 m^2 are covered. Victoria, a small port with a finger quay of about 80 m, is located in the rocky bay of Ambas, in the western region. It has 13,200 m^2 of storage areas, of which 3,500 m^2 are covered, and caters particularly to cocoa and rubber exports. Tiko is located in a sheltered area in the western region with limited importance, catering particularly to banana exports. It is a small port with a main wharf about 135 m, a lighterage wharf about 120 m and 3,500 m^2 of covered storage areas. In 1980, 2,178 tons of imports and 24,820 tons of exports were handled through these two ports. Garoua Port on the Benoue River in northern Cameroon is a seasonable port and has been of limited importance since the Nigerian civil war. The quay at Garoua is 256 m with 125,000 m^2 storage area, of which 4,800 m^2 are covered. The total imports/exports handled in 1980 was 250 tons.

11. Cameroon Shipping Lines S.A. (CAMSHIP), formed in 1975, has developed fairly successfully. The Government, the National Investment Company, and UNIMAR (a West German shipping company) have equal shares in CAMSHIP. The fleets' six ships total about 75,000 deadweight tons (dwt). Additionally, CAMSHIP has a chartered banana boat of 4,100 dwt. The tonnage carried increased by 15% in 1979 and 23% in 1980 to reach 434,000 tons, of which 334,000 was break-bulk and about 100,000 tons containerized. In 1979, CAMSHIP carried about 32% of the export tonnage (excluding bananas and other fruit) and around 29% of the import tonnage (excluding bulk cargo) between Douala and Northern Europe. Since early 1979 regular operations to Western Mediterranean ports have started. CAMSHIP had a small deficit in FY1979. The results for FY1980 were not yet available at the time of the appraisal mission.

12. CAMSHIP receives favorable treatment from the Shippers' Council of Cameroon which controls cargo allocations. Since its reorganization in 1978, the Council has substantial financial resources at its disposal. It receives 0.3% of the value (f.o.b.) of all trade and has started to use these funds to study the production, marketing and transport of major commodities. The first of such studies, on coffee, has been published.

Air Transport

13. Air transport in Cameroon comprises Cameroon Airlines (CAMAIR) which operates scheduled passenger and cargo flights and charters, and the Armed Forces and small companies that operate charters and carry freight. CAMAIR was formed in June 1971 and is owned 75% by the Government and 25% by Air France with which it has reciprocal marketing arrangements. It operates domestic services (which are generally unprofitable) between Douala, Yaounde and 12 other domestic airports, and profitable international services between Douala, West and East Africa, and Europe. In FY1980, CAMAIR transported 499,834 passengers, an increase of 19% over FY1979. Domestic traffic accounted for about 76% of the passengers carried, regional traffic for 14% and long distance flights for 10%. Freight traffic amounted to 10,000 tons.

CAMEROON

THIRD DOUALA PORT PROJECT

Existing Port Facilities and Operations at Douala

Location

1. Douala Port, which lies on the Wouri Estuary some 30 km from the ocean, is the major port of Cameroon. The port provides very good shelter to seagoing ships; however, when exposed to high winds and currents it is difficult to berth/unberth large vessels. This situation will be improved under the project with procurement of a more powerful tug.

The Channel

2. The entrance channel extends 30 km from the ocean; under the Second Port Project it was dredged to 7.5 m depth below lowest low water (LLWL), and at the outer bar NPA is continuing to dredge down to 9.5 m; this work is expected to be completed by the end of the current year. Minimum tidal range is about 1.7 m. Maximum ship size that can enter the channel at all tides is limited to 20,000 dwt. The channel is provided with a sufficient number of buoys which however need to be upgraded and electronic positioning equipment is needed; both will be done under the project.

Port Facilities[1/]

3. The Port lies largely on the Douala side of the estuary with a cement clinker unloading wharf and a banana loading wharf on the Bonaberi side. A road and rail bridge connects both sides. Port facilities on the Douala side consist of a fishing basin, a 2,200 m long marginal wharf and a log basin. The fishing basin accommodates two floating docks and 660 m long marginal wharfs for fishing vessels and oil exploration boats. In the basin, average low water depth is 5.5 m. Along the entrance channel, at the continuous marginal wharfs (normally fifteen) of varying lengths there are: one mineral wharf, two container wharfs, one ro/ro wharf and the remainder are general cargo wharfs. Low water depth along these wharfs varies between 11.5 m and 8.5 m. The log port basin has three ramps for rolling logs into the water and a 150 m long marginal wharf for loading non-floating logs into barges. The basin during the recent expansion of the Douala Port was dredged to 9.5 m depth to provide sand for the land reclamation component. Petroleum imports are handled at mid-channel berth through a pipeline. All wharfs in Douala are built of anchored steel sheet piling with cathodic protection. The Port of Douala has a total storage area of 106 ha, of which 6 ha are covered and 100 ha are open. Of the open storage, 22.6 ha are used for containers,

1/ For existing minor ports see Annex2, para. 10.

20 ha for logs and the rest for bulk alumina and general cargo. Of the storage area reserved for containers, 1.8 ha is used for prestowing, 8.4 ha for storage of fulx boxes, 1.2 ha for storage of empty boxes and 1.2 ha for refrigerated boxes. In the log port, 10 ha is reserved for sorting out logs and 10 ha for logs already marketed and designated for transportation to specific destinations. In addition, the Port of Douala has an ice-making plant of 100 t daily capacity with three storage silos of 100 t each equipped for loading trucks by gravity, and a 16,500 m cold storage for fish.

4. The dockyard operated by NPA is equipped with a 100 ton slipway and various covered workshops. There are two floating docks (a 1,200-ton and a 800-ton), one floating crane, one cutter suction dredger and one trailer suction dredger. In addition NPA has a number of launches, pilot boats and other work boats.

Port Operations

5. NPA is responsible for conservancy and provision of navigational aids, pilotage, operation of a dockyard for repairs of its work boats and other small craft, maintenance dredging in the Port and at the entrance channel, operation of the ice plant and refrigerated storage for fish and shrimp, and maintenance of port infrastructure. General cargo and ro/ro are handled by five independent stevedoring companies: SOCOPAO, CAMATRANS, SOAM, TRANSCAP and SOCOMAC. In addition to their privately-owned warehouses, these companies lease sheds and open storage from NPA. The container terminal is operated by a consortium composed of the five stevedoring companies. Log traffic is handled by two autonomous companies with their own log-carrying equipment ashore, as well as tugs and barges. In these two companies NPA is a minor shareholder. Alumina and its products are loaded/unloaded from ships by ALUCAM and cement clinker by CIMENCAM; both are partly owned by the state.

6. There are no restrictions on night or holiday work and operations continue for 12 hours per day on average. The present arrangements for general cargo handling are reasonably satisfactory and result in traffic throughput similar to other reasonably well-functioning West African Ports, of about 1,000 tons of general cargo per meter of wharf, and 5 containers per berth per hour. In contrast, banana cargoes at Bonaberi are not handled properly or at a fast enough rate; old mobile ladders are used and due to an adjacent cement plant, the environment is dusty. Maximum loading rates obtainable are under 15 tons/hour per mobile ladder; these ladders often break and cause heavy damage to the perishable fruit. With the new wharf located in Douala in a dust-free environment and the conveyor belt system financed under the project, loading rates per conveyor should increase up to 50 tons/hour and damage to the cargo would be minimized.

CAMEROON
THIRD DOUALA PORT PROJECT
Douala Port - Total Import and Export Traffic, CY1969-1980
('000 tons)

	1969	1973	1974	1975	1976	1977	1978	1979	1980	Percent p.a. Increase 1969-1980	1969-1975	1975-1980
IMPORTS												
Petroleum Products	256	350	340	362	435	487	552	622	686	9.4	5.9	13.7
Clinker	23	138	210	195	176	243	330	392	415	30.1	42.9	16.2
Food and Beverage	117	163	160	174	199	276	315	300	332	10.0	6.9	13.8
Equipment	68	77	84	108	105	144	155	222	218	11.2	8.0	15.1
Fertilizer	51	44	35	59	41	54	102	87	87	5.0	2.5	8.0
Alumina	88	91	95	106	95	79	82	84	85	(0.4)	3.1	(3.7)
Cement	106	10	18	6	5	10	23	40	37	(8.5)	( )	43.8
Gypsum	n.a.	18	9	6	11	10	21	11	33	n.a.	n.a.	40.6
Other Imports	216	256	280	287	293	387	424	460	490	7.7	4.9	11.3
Total Imports	925	1,147	1,231	1,304	1,360	1,690	2,004	2,218	2,383	9.0	5.9	12.8
of which Specialized Bulk	367	597	645	670	717	819	985	1,109	1,219	11.5	10.6	12.7
General Cargo	558	550	586	634	643	871	1,019	1,109	1,164	6.9	2.2	13.0
EXPORTS												
Logs	298	403	319	214	329	334	324	362	385	2.3	(5.4)	12.5
Sawn Timber	53	76	84	70	81	69	75	92	121	7.8	4.8	11.6
Subtotal Timber	351	479	403	284	410	403	399	454	506	3.4	(3.5)	12.2
Coffee	68	84	107	98	103	73	93	110	104	3.9	6.3	1.2
Cotton and Cotton Oil	31	51	44	42	63	70	66	71	79	8.9	5.2	13.5
Cocoa and Products	78	74	78	70	59	49	58	61	75	(0.4)	(1.9)	1.4
Bananas	35	69	75	82	87	88	84	85	64	5.7	15.2	(5.0)
Aluminum	52	31	32	27	22	29	21	47	12	(12.5)	(10.7)	(15.0)
Other Exports	113	102	119	93	92	86	87	134	125	0.9	(3.4)	6.1
Total Exports	728	890	858	696	836	798	808	893	965	2.6	(0.8)	6.8
of which Specialized Bulk	52	31	32	27	22	29	21	47	12	(12.5)	(10.7)	(15.0)
General Cargo	676	859	826	669	814	769	787	846	953	3.2	(0.2)	7.3
Total Traffic	1,653	2,037	2,089	2,000	2,196	2,488	2,812	3,111	3,348	6.6	3.2	10.9
of which Specialized Bulk	419	628	677	697	739	848	1,006	1,156	1,231	10.3	8.9	12.1
General Cargo	1,234	1,409	1,412	1,303	1,457	1,640	1,806	1,955	2,117	5.0	1.0	10.1

1/ Actual traffic data for 1981 are indicated in Table 6.1.

Source: Compiled on the basis of information made available by NPA.

ANNEX 4
Table 5.1

CAMEROON

THIRD DOUALA PORT PROJECT

NPA Five-Year Investment Plan, FY1982-1986
(in 1981 CFAF billions)

	FY1982	FY1983	FY1984	FY1985	FY1986	TOTAL
List A Projects Technically and Economically Justified						
Oil exploration area	1.00	4.00	4.00			9.00
Rehabilitation Berth 1 and 2	0.90					0.90
NPA-CNCC Headquarter		0.30	0.50	0.50		1.30
Storage area for landlocked countries	0.80	1.80				2.60
Fruit terminal, container and general cargo berths 1/			1.73	1.73	1.74	5.20
Fruit Handling Equipment 1/			0.11	0.11	0.12	0.34
Tugboat 1/			0.50	0.60		1.10
Access Program 1/		0.85	0.85	0.86		2.56
Small crafts			0.12	0.12	0.15	0.39
Replacement transportation equipment		0.05	0.05			0.10
Repair works		0.50	0.50	0.50	0.50	2.00
Data processing 1/, 2/			0.20	0.20	0.21	0.61
Studies	0.02	0.03 1/	0.35 1/	0.35 1/	0.35	1.10
	2.72	7.53	8.91	4.97	3.07	27.21
List B Projects Subjects to Further Studies						
Dredging Equipment			0.40	0.40	0.30	1.10

/1 Included in the proposed Third Douala Port Project.
/2 Tentative estimate. Subject to further studies.

Source: NPA and Bank staff.

02/83

ANNEX 4
Table 5.2

CAMEROON

THIRD DOUALA PORT PROJECT

Project Cost Summary

	CFAF millions			US$ million equivalent[1/]			% of
	Foreign	Local	Total	Foreign	Local	Total	Cost
1. Civil Works							
a. Three berths & dredging	2,278	1,326	3,604	6.7	3.9	10.6	
b. Warehouse	306	204	510	.9	.6	1.5	
c. Railroad & services	272	136	408	.8	.4	1.2	
Subtotal - Civil Works	2,856	1,666	4,522	8.4	4.9	13.3	
Contingencies							
Physical	442	238	680	1.3	.7	2.0	
Price	918	1,258	2,176	2.7	3.7	6.4	
Subtotal - Cont.	1,360	1,496	2.856	4.0	4.4	8.4	
Total - Civil Works	4,216	3,162	7,378	12.4	9.3	21.7	67
2. Equipment							
a. Fruit handling equipment	272	34	306	.8	.1	.9	
b. Tugboat	1,020	--	1,020	3.0	--	3.0	
c. Elec. Pos. System	170	--	170	.5	--	.5	
d. Bouyage	68	--	68	.2	--	.2	
Subtotal - Equipment	1,530	34	1,564	4.5	.1	4.6	
Contingencies							
Physical	136	--	136	.4	--	.4	
Price	340	--	340	1.0	--	1.0	
Subtotal - Cont.	476	--	476	1.4	--	1.4	
Total - Equipment	2,006	34	2,040	5.9	.1	6.00	18
3. Data Processing							
a. Hardware	272	--	272	0.8	--	0.8	
b. Technical Assistance	272	68	340	0.8	0.2	1.0	
Subtotal	544	68	612	1.6	0.2	1.8	
Contingencies							
Physical	34	--	34	.1	--	.1	
Price	102	--	102	.3	--	.3	
Subtotal - Cont.	136	--	136	.4	--	.4	
Total - Computer	680	68	748	2.0	.2	2.2	7
4. Consultants	544	238	782	1.6	.7	2.3	
Contingencies							
Price	136	68	204	.4	.2	.6	
Total - Consultants	680	306	986	2.0	.9	2.9	7
GRAND TOTAL	7,582	3,570	11,152	22.3	10.5	32.8	
Front-end fee on Bank Loan	68	--	68	.2	--	.2	1
Total Financing Required	7,650	3,570	11,220	22.5	10.5	33.0	100

01/83

CAMEROON

THIRD DOUALA PORT PROJECT

Douala Port - Traffic Forecasts, CY1981-1990

('000 tons)

	Actual		Forecast									Percent p.a. increase
	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1980-1990
IMPORTS												
Petroleum Products	686	733	828	911	1,000	1,103	1,191	1,286	1,389	1,500	1,600	
Clinker	415	450	502	552	607	668	735	808	888	977	1,075	
Food and Beverage	332	366	399	445	492	544	591	640	693	748	805	
Equipment	218	197	325	378	433	488	536	585	632	682	736	
Fertilizer	87	59	96	101	106	112	115	118	121	124	127	
Alumina	85	140	140	150	161	169	203	243	280	322	370	
Cement	37	50	53	56	59	61	63	65	67	69	71	
Other Bulk Import	25	58	81	93	106	120	134	150	167	185	205	
Gypsum	33	16	40	43	48	53	58	64	71	78	85	
Other Imports	465	539	604	676	757	848	950	1,064	1,192	1,335	1,495	
Total Imports	2,383	2,608	3,068	3,405	3,769	4,166	4,576	5,023	5,500	6,020	6,569	10.7
of which General Cargo	1,164	1,211	1,477	1,656	1,847	2,053	2,255	2,472	2,705	2,958	3,234	11.0
EXPORTS												
Logs	385	303	369	400	408	416	424	433	442	450	460	
Sawn Timber	121	118	121	148	157	166	175	184	192	200	210	
Subtotal Timber	506	421	490	548	565	582	599	617	634	650	670	
Coffee	104	110	122	130	138	142	145	148	150	152	154	
Cotton	60	52	69	74	79	84	88	94	100	107	114	
Cocoa and Products	75	81	81	84	86	88	90	92	94	96	98	
Fruit	64	58	60	65	70	70	70	70	70	70	70	
Aluminum	12	39	56	57	58	59	54	52	50	48	46	
Paper Mass	--	--	60	70	70	70	70	70	70	70	70	
Other Exports	144	165	172	178	186	193	201	209	217	226	235	
Total Exports	965	926	1,110	1,206	1,252	1,288	1,317	1,352	1,385	1,419	1,457	4.2
of which General Cargo /1	837	781	846	900	920	951	983	1,014	1,044	1,076	1,111	2.9
Total Traffic	3,348	3,534	4,178	4,611	5,021	5,454	5,893	6,375	6,885	7,439	8,026	9.1
of which General Cargo	2,001	1,992	2,323	2,556	2,767	3,004	3,238	3,486	3,749	4,034	4,345	8.1

/1 In 1980, including 70% of log exports as general cargo and 30% as bulk with the share of log general cargo declining to 50% by 1984. Excluding, in addition, aluminum exports and from 1982 paper mass exports over CELLUCAM berth. The general cargo export volume and the total general cargo volume in 1980 was lower than the figures in Annex 4, Table 4.1 due to the exclusion of part of the log traffic from the general cargo categories in this table.

Source: Compiled on the basis of information made available by NPA and Bank staff estimates.

08/82

ANNEX 4
Table 6.2

CAMEROON

THIRD DOUALA PORT PROJECT

Cost and Benefit Streams for Container and Multi-Purpose Berths, CY1983-2004
(in US$ '000s)

			Benefits		
	Capital Costs	Maintenance and Operating Costs	Reefer Service Time Costs	General Cargo Waiting Time Costs	Higher Return on Bananas from Reduced Damage
1983	3,000	-	-	-	-
1984	4,600	-	-	-	-
1985	4,600	-	-	-	-
1986	4,400	600	263[1/]	2,131[1/]	-
1987	700	600	546	4,635	800[2/]
1988	-	900	546	8,632	800
1989-2004	-	900	515	10,495	800

1/ Assuming half year of benefits on y.
2/ Assuming a delay in benefits accrual.

Source: Bank staff estimates.

01/83

ANNEX 4
Table 6.3

CAMEROON

THIRD DOUALA PORT PROJECT

ERR Under Different Assumptions

	ERR (%)
A. Container and Multi-purpose Berths with Shed and Cargo Handling Equipment	
1. Best Estimate [1]	34
(i) 10% increase in project cost	32
(ii) 10% reduction in benefits	31
(iii) Both	29
(iv) 20% increase in project cost	29
(v) 20% reduction in benefits	26
(vi) Both	24
(vii) Benefits lagged by one year	28
(viii) Benefits lagged by two years	23
(ix) Excluding benefits from reduced damage to fruit and from reduced reefer service costs.	29
2. Conservative Traffic Assumption (10% lower)	26
(a) Excluding benefits from reduced damage to fruit and from reduced reefer service costs.	20
3. Conservative General Cargo Productivity (5% higher)	26
(b) Excluding benefits from reduced damage to fruit and from reduced reefer service costs.	22
B. TugBoat	18 [2]
C. Combined including Technical Assistance and Data Processing	27
(i) 10% increase in project costs	25
(ii) 10% reduction in benefits	25
(iii) Both	23
(iv) 20% increase in project costs	23
(v) 20% reduction in benefits	22
(vi) Both	18
(vii) Benefits lagged by one year	22
(viii) Benefits lagged by two years	19
(viii) Excluding benefits from reduced damage to fruit and from reduced reefer service costs.	24

1/ Based on traffic forecasts in Table 6.1, capital and maintenance costs in Table 6.2 and other factors explained in Chapter VI.

2/ As estimated by NPA. As explained in paras. 6.09 and 6.11 this is a very conservative estimate.

Source: Bank staff.
01/83

ANNEX 4
Table 7.1

CAMEROON

THIRD DOUALA PORT PROJECT

NPA Consolidated Balance Sheets, FY1975-1982
(In millions of CFAF)

As of June 30	06/30/75 (FY75)	06/30/76 (FY76)	06/30/77 (FY77)	06/30/78 (FY78)	06/30/79 (FY79)	06/30/80 (FY80)	06/30/81 (FY81)	06/30/82 (FY82) (Provisional)
ASSETS								
Fixed Assets								
Gross Value	3,839	11,252	14,702	24,067	32,582	42,610	51,533	55,266
- Depreciation	-(1,215)	-(1,767)	-(2,514)	-(3,247)	-(3,846)	-(4,710)	-(6,251)	-(8,380)
Net Value	2,624	9,485	12,188	20,820	28,735	37,900	45,272	46,886
Work In Progress	6,653	162	103	274	745	828	--	--
Investments	28	28	28	47	57	227	443	443
Claims (more than one-year term)	18	18	10	12	53	55	55	55
Total Fixed Assets	9,323	9,693	12,329	21,153	29,590	39,010	45,780	47,384
Current Assets								
Stores	139	122	136	148	136	156	128	237
Prepaid Expenses	22	18	35	51	132	182	289	424
Receivables	369	613	825	1,233	1,648	2,273	2,475	2,767
Cash	1,352	882	804	381	626	675	342	95
Total Current Assets	1,882	1,635	1,800	1,813	2,542	3,286	3,234	3,523
LIABILITIES								
Long-Term Liabilities								
Equity								
Capital	8,040	8,040	8,040	8,040	8,040	8,040	8,040	8,040
Retained Earnings & Subsidies	2,420	2,585	3,356	4,606	6,823	9,196	11,031	12,373
Total Equity	10,460	10,625	11,396	12,646	14,863	17,236	19,071	20,413
Long-Term Debt	361	365	803	9,502	15,104	23,267	25,219	25,700
Total Long-Term Liabilities	10,821	10,990	12,199	22,148	29,967	40,503	44,290	46,113
Current Liabilities								
Accrual Liabilities	179	60	13	22	455	566	389	438
Other Current Liabilities	205	278	1,915	798	1,711	1,227	4,335	4,356
Total Current Liabilities	384	338	1,928	820	2,166	1,793	4,724	4,794
Current Ratio (Current Assets/ Current Liabilities)	4.90	4.83	1.07	2.21	1.17	1.83	1.63	1.36
Debt/Equity Ratio (Long-Term Debt + Current Liabilities) ÷ Equity	.07	.07	.24	.81	1.16	1.45	1.32	1.26

Source: Compiled on the basis of information made available by NPA.

01/83

ANNEX 4
Table 7.2

CAMEROON

THIRD DOUALA PORT PROJECT

Douala Port Balance Sheets, FY1975-1982
(In millions of CFAF)

As of June 30	06/30/75 (FY75)	06/30/76 (FY76)	06/30/77 (FY77)	06/30/78 (FY78)	06/30/79 (FY79)	06/30/80 (FY80)	06/30/81 (FY81)	06/30/82 (FY82) (Provisional)
ASSETS								
Fixed Assets								
Gross Value	8,916	10,084	13,458	22,738	31,256	41,201	49,021	52,906
- Depreciation	-(1,038)	-(1,515)	-(2,162)	-(2,797)	-(3,304)	-(4,093)	-(5,606)	-(7,646)
Net Value	7,878	8,569	11,296	19,941	27,952	37,108	43,415	45,260
Work In Progress	408	112	82	274	744	827	753	600
Investments	46	28	28	47	57	227	443	442
Claims (more than one-year term)	-	-	-	-	51	56	56	56
Total Fixed Assets	8,333	8,709	11,406	20,262	28,804	38,218	44,667	46,358
Current Assets								
Stores	97	87	97	101	110	114	92	194
Prepaid Expenses	21	17	36	52	126	176	282	406
Receivables	310	538	725	1,088	1,409	2,104	2,283	2,570
Cash	1,284	1,112	1,032	828	435	553	249	(317)
Total Current Assets	1,712	1,754	1,890	2,069	2,080	2,947	2,906	2,853
LIABILITIES								
Long-Term Liabilities								
Equity								
Capital	7,327	7,327	7,327	7,327	7,327	7,327	7,327	7,327
Retained Earnings & Subsidies	2,184	2,466	3,266	4,594	6,574	9,241	11,249	12,865
Total Equity	9,511	9,793	10,593	11,921	13,901	16,568	18,576	20,192
Long-Term Debt	360	365	803	9,502	15,104	23,267	25,219	25,700
Total Long-Term Liabilities	9,871	10,158	11,396	21,423	29,005	39,835	43,795	45,892
Current Liabilities								
Accrual Liabilities	174	47	12	21	452	563	366	415
Other Current Liabilities	-	258	1,888	887	1,427	766	3,412	2,904
Total Current Liabilities	174	305	1,900	908	1,879	1,329	3,778	3,319
Current Ratio (Current Assets/ Current Liabilities)	3.20	5.75	.99	2.27	1.10	2.21	.76	.86
Debt/Equity Ratio (Long-Term Debt + Current Liabilities) ÷ Equity	.05	.07	.25	.87	1.22	1.48	1.56	1.43

Source: Compiled from data made available by NPA.

03/83

ANNEX 4
Table 7.3

CAMEROON

SECOND DOUALA PORT PROJECT

NATIONAL PORT AUTHORITY

Consolidated Sources and Applications of Funds, FY1976-1982
(in millions of CFAF)

Annual amounts

	FY1976	FY1977	FY1978	FY1979	FY1980	FY1981	FY1982 (Provisional)
Long-Term Applications							
Capital investment	922	3,383	9,562	9,763	10,283	8,421	3,803
Debt service							
Interest	2	43	151	465	1,067	1,045	1,262
Repayment	-	-	-	-	-	521	749
Total long-term applications	924	3,426	9,713	10,228	11,350	9,987	5,814
Long-Term Source							
Cash generated from operations	739	1,226	1,317	779	2,084	2,871	3,870
Subsidies and grants	165	771	1,250	2,217	2,373	1,318	1.040
Long-term loans	370	438	8,699	5,603	8,163	2,473	1,151
Total long-term sources	1,274	2,435	11,166	8,599	12,620	6,662	6,061
Excess long-term sources/appls.	350	(991)	1,453	(1,629)	1,270	(3,325)	247
Increase in working capital (dec.)	820	(913)	1,876	(1,807)	1,219	(2,992)	481
Cash increase (dec.)	(470)	(78)	(423)	178	51	(333)	(234)

Cumulative amounts

Long-Term Applications							
Capital investment	922	4,305	13,867	23,630	33,913	42,334	46,137
Debt service	2	45	196	661	1,728	3,294	5,226
Total long-term applications	924	4,350	14,063	24,291	35,641	45,628	51,363
Long-Term Sources							
Cash generated from operations	739	1,965	3,282	4,061	6,145	9,016	12,886
Subsidies and grants	165	936	2,186	4,403	6,776	8,094	9,134
Long-term loans	370	808	9,507	15,110	23,273	25,746	26,897
Total long-term sources	1,274	3,709	14,975	23,574	36,194	42,856	48,917
Excess long-term sources/appls.	350	(641)	(812)	(717)	(553)	(2,772)	(2,525)
Increase in working capital (dec.)	820	(93)	1,783	(75)	1,295	(1,697)	(1,216)
Cash increase (decrease)	(470)	(548)	(971)	(793)	(742)	(1,075)	(1,309)

Source: Compiled from data made available by NPA.

01/83

ANNEX 4
Table 7.4

CAMEROON

THIRD DOUALA PORT PROJECT

Douala Port Sources and Applications of Funds, FY1975-1982
(In millions of CFAF)

	FY1975	FY1976	FY1977	FY1978	FY1979	FY1980	FY1981	FY1982 (Provisional)
Applications (long-term)								
Increase in fixed assets /1		922	3,383	9,562	9,763	10,203	7,962	3,803
Service of the debt		-	4	142	464	1,065	1,586	2,011
Total long-term applications		922	3,387	9,704	10,227	11,268	9,548	5,814
Sources (long-term)								
Cash generated from operations (less works on force account) /2		635	949	868	1,058	1,628	2,229	3,226
Financing of works on force account through operations		93	116	485	626	450	752	842
Grants and subsidies		174	531	856	1,980	2,667	1,078	1,040
Increase in long-term debt		365	438	8,699	5,603	8,163	2,473	1,151
Other long-term sources		4	-	-	-	-	-	-
Total long-term sources		1,271	2,034	10,908	9,267	12,908	6,532	6,259
Excess of long-term sources over long-term applications of funds		349	(1,353)	1,204	(960)	1,640	(3,016)	406
Increase in working capital		521	(1,273)	1,000	(567)	1,522	(2,712)	432
Cash increase		(172)	(80)	(204)	(393)	118	(304)	(26)
Cash at the end of the period	1,284	1,112	1,032	828	435	553	249	(317)

/1 Including works on force account: CFAF 93 million in 1976; 116 million in 1977; 458 million in 1978; 626 million in 1979; 450 million in 1980.

/2 Works on force account are accounted for as revenue, but as they do not involve a cash inflow, strictly speaking, they should be subtracted from cash generated from operations.

Source: Compiled from data made available by NPA.

01/83

ANNEX 4
Table 7.5

CAMEROON

THIRD DOUALA PORT PROJECT

NPA Consolidated Income Statements, FY1975-1982
(In millions of CFAF)

	FY1975	FY1976	FY1977	FY1978	FY1979	FY1980	FY1981	FY1982 (Provisional)
Charges against ships	497	622	810	1,068	1,276	1,604	1,801	2,174
Charges against merchandise	702	849	1,197	1,218	1,431	1,546	2,150	2,716
Rentals	299	342	450	432	578	1,225	1,884	2,755
Miscellaneous	456	367	690	866/1	1,235/2	947/3	1,000/4	1,136
Total operating revenue	1,954	2,180	3,147	3,584	4,520	5,322	6,835	8,781
Staff Costs	693	835	1,024	1,182	1,438	1,782	1,843	2,315
Materials and Supplies	179	233	351	420	644	686	1,065	1,292
General Expenses	380	373	546	665	659	770	1,056	1,256
Total working expenditure	1,252	1,441	1,921	2,267	2,741	3,238	3,964	4,863
Cash generated from operations	702	739	1,226	1,317	1,779	2,084	2,871	3,918
Depreciation	499	652	795	814	1,024	1,377	1,860	2,199
Net operating revenue	203	73	431	503	755	707	1,011	1,719
Interest on long-term debt	1	2	43	151	464	942	1,045	1,389
Net profit (loss)	202	71	388	352	291	(235)	(34)	350
Working ratio	.64	.66	.61	.63	.60	.61	.58	.55
Operating ratio	.89	.96	.86	.85	.83	.87	.85	.80
Debt coverage ratio				9.1	3.8	2.2	1.83	1.87
Rate of return (%)/5		.7	3.9	3.0	2.9	2.1	2.-	3.7
Average value of net fixed assets		9,508	11,011	16,741	25,371	34,300	41,586	46,582

/1 Including CFAF 458 million works on force account.
/2 Including CFAF 628 million works on force account and CFAF 136 million excess of depreciation on previous years.
/3 Including CFAF 450 million works on force account.
/4 Including CFAF 757 million works on force account.
/5 Defined as net operating revenue/average value of net fixed assets.

Source: Compiled from data made available by NPA.

02/83

ANNEX 4
Table 7.6

CAMEROON

THIRD DOUALA PORT PROJECT

Douala Port Income Statements, FY1975-1982
(In millions of CFAF)

	FY1975	FY1976	FY1977	FY1978	FY1979	FY1980	FY1981	FY1982 (Provisional)
Charges against ships	495	569	810	1,039	1,312	1,556	1,711	2,076
Charges against merchandise	659	849	1,195	1,081	1,213	1,456	2,045	2,599
Rentals	238	342	449	355	480	1,139	1,770	2,629
Miscellaneous	394	326	294	831 /1	1,139 /2	993 /3	992 /4	1,127
Total operating revenue	1,786	2,086	2,748	3,306	4,144	5,144	6,518	8,431
Staff Costs	585	835	1,026	1,017	1,264	1,593	1,628	2,062
Materials and Supplies	190	232	350	384	1,034	650	963	1,176
General Expenses	289	291	303	579	163	723	946	1,126
Total working expenditure	1,064	1,358	1,679	1,980	2,461	2,966	3,537	4,364
Cash generated from operations	722	728	1,069	1,326	1,684	2,078	2,981	4,068
Depreciation	434	620	796	702	893	1,297	1,774	2,112
Net operating revenue	288	108	273	624	791	781	1,207	1,956
Interest on long-term debt	1	-	4	142	464	1,065	1,045	1,341
Net profit (loss)	287	108	269	482	327	(284)	162	615
Working ratio	.65	.65	.61	.60	.59	.59	.54	.52
Operating ratio	.89	.95	.90	.81	.81	.84	.81	.77
Debt coverage ratio				9.1	3.8	2.2	1.90	1.49
Rate of return /5 (%)		1.12	2.71	3.94	3.22	2.34	3.-	4.3
Average value of net fixed assets		8,521	10,057	15,834	24,533	33,317	41,387	45,512

/1 Including CFAF 458 million works on force account.
/2 Including CFAF 628 million works on force account and CFAF 136 million excess of depreciation on previous years.
/3 Including CFAF 450 million works on force account.
/4 Including CFAF 752 million works on force account.
/5 Defined as net operating revenue/average value of net fixed assets.

Source: Compiled from data made available by NPA.

02/83

ANNEX 4
Table 7.7

CAMEROON
THIRD DOUALA PORT PROJECT
NATIONAL PORT AUTHORITY
PROJECTED SOURCES AND APPLICATIONS OF FUNDS FY 1981-1991

(IN MILLIONS OF CFAF)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
LONG TERM SOURCES											
CASH GENERATED		3918.	4577.	6421.	7379.	8739.	9649.	10724.	11668.	12573.	14077.
BORROWINGS		1151.	926.	5571.	4645.	4121.	3898.	4251.	4249.	4547.	4865.
CAPITAL INCREASE		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
GOVERNMENT CONTRIBUTIONS		1040.	5263.	4025.	28.	30.	32.	35.	37.	40.	43.
NON OPERATING REVENUES		312.	347.	385.	424.	466.	503.	543.	587.	634.	684.
NON OPERATING EXPENSES		360.	419.	489.	565.	652.	739.	839.	951.	1078.	1223.
TOTAL LONG TERM SOURCES		6061.	10694.	15914.	11911.	12703.	13342.	14715.	15590.	16715.	18447.
LONG TERM APPLICATIONS											
INVESTMENT IN INFRASTRUCTURE		2646.	6501.	8539.	3597.	3885.	3434.	3761.	4025.	4307.	4608.
INVESTMENT ON FORCE ACCOUNT		842.	935.	1038.	1141.	1256.	1356.	1465.	1582.	1708.	1845.
INVESTMENT IN BUILDINGS		315.	595.	643.	347.	390.	1296.	1400.	1498.	1602.	1715.
INVESTMENT IN EQUIPMENT		0.	60.	2778.	2958.	2284.	1296.	1400.	1498.	1602.	1715.
TOTAL INVESTMENT		3803.	8091.	12997.	8044.	7815.	7382.	8025.	8602.	9220.	9882.
INTEREST		1262.	1279.	1362.	1923.	2301.	2755.	3113.	3468.	3636.	3774.
REPAYMENT		670.	699.	916.	1233.	1450.	1602.	1927.	2771.	3295.	3584.
LOSS (GAIN) ON FOREIGN EXCHANGE		79.	165.	163.	187.	183.	197.	196.	194.	189.	187.
TOTAL DEBT SERVICE		2011.	2143.	2441.	3343.	3934.	4554.	5236.	6432.	7119.	7545.
TOTAL OTHER INVESTMENT		0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL LONG TERM APPLICATIONS		5814.	10234.	15438.	11387.	11748.	11936.	13261.	15034.	16339.	17427.
EXCESS LT. SOURCES / LT. APPLIC		247.	460.	476.	523.	955.	1406.	1454.	556.	377.	1020.
SHORT TERM SOURCES											
INCREASE ACCRUALS		49.	22.	25.	168.	113.	136.	107.	106.	50.	42.
INCREASE PAYABLES		34.	34.	27.	26.	30.	35.	39.	39.	46.	50.
SHORT TERM APPLICATIONS											
INCREASE IN STORES		109.	109.	87.	84.	95.	110.	123.	124.	146.	157.
INCREASE IN RECEIVABLES		292.	-279.	402.	274.	349.	291.	334.	320.	370.	473.
INCREASE PREPAID EXPENSES		135.	122.	126.	130.	145.	155.	173.	178.	234.	247.
LIQUIDITY INCREASE		-234.	563.	-99.	230.	509.	1021.	970.	79.	-277.	233.
CASH AT THE END OF PERIOD		-446.	117.	18.	248.	757.	1778.	2748.	2828.	2551.	2784.

ANNEX 4
Table 7.8

03/10/83

CAMEROON
THIRD DOUALA PORT PROJECT
NATIONAL PORT AUTHORITY
PROJECTED INCOME STATEMENTS FY 1981-1991

(IN MILLIONS OF CFAF)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
REVENUE ON SHIPS	1313.	1604.	1866.	2454.	2832.	3353.	3834.	4400.	5051.	5832.	6710.
REVENUE ON STAYING TIME	488.	570.	649.	828.	913.	1081.	1217.	1388.	1602.	1843.	2135.
REVENUE ON MERCHANDISE	2150.	2716.	3257.	4145.	4721.	5470.	6061.	6698.	7171.	7726.	8556.
RENTALS	1884.	2755.	3211.	4062.	4690.	5401.	5982.	6667.	7287.	7989.	8923.
MISCELLANEOUS REVENUES	99.	111.	123.	137.	150.	165.	179.	193.	208.	225.	243.
REVENUE ON WORKSHOP	149.	183.	214.	272.	315.	364.	402.	449.	492.	538.	603.
FORCE ACCOUNT	752.	842.	935.	1038.	1141.	1256.	1356.	1465.	1582.	1708.	1845.
TOTAL REVENUE ON OPERATIONS	6835.	8781.	10255.	12936.	14764.	17090.	19031.	21260.	23394.	25861.	29015.
EXPENDITURES											
STAFF COSTS	1843.	2315.	2690.	3100.	3528.	3985.	4477.	5018.	5542.	6338.	7132.
MATERIALS AND FUELS	1065.	1292.	1520.	1702.	1877.	2077.	2307.	2565.	2827.	3136.	3469.
GENERAL EXPENDITURES	1056.	1256.	1468.	1713.	1980.	2289.	2598.	2953.	3356.	3815.	4337.
TOTAL WORKING EXPENDITURES	3964.	4863.	5678.	6515.	7385.	8351.	9382.	10536.	11726.	13288.	14938.
CASH GENERATION	2871.	3918.	4577.	6421.	7379.	8739.	9649.	10724.	11668.	12573.	14077.
DEPRECIATION ON INFRA	784.	980.	1245.	1586.	1754.	1937.	2108.	2294.	2493.	2707.	2937.
DEPRECIATION ON BUILDINGS	316.	278.	305.	334.	350.	367.	426.	490.	558.	631.	709.
DEPRECIATION ON EQUIPMENT	760.	942.	943.	1215.	1506.	1730.	1854.	1989.	2134.	2289.	2456.
TOTAL DEPR. (NON REV. ASSETS)	1860.	2199.	2492.	3135.	3610.	4034.	4388.	4773.	5185.	5627.	6101.
TOTAL OPERATING COSTS	5824.	7062.	8170.	9650.	10995.	12385.	13771.	15309.	16911.	18916.	21039.
NET OPERATING REVENUE	1011.	1719.	2085.	3286.	3769.	4705.	5260.	5951.	6483.	6946.	7976.
INTEREST CHARGE	1045.	1290.	1279.	1374.	1923.	2301.	2755.	3113.	3468.	3636.	3775.
LOSS (GAIN) ON FOREIGN EXCH.	0.	79.	165.	163.	187.	183.	197.	196.	194.	189.	187.
RESULT ON OPERATIONS	-34.	429.	806.	1913.	1846.	2404.	2505.	2838.	3015.	3310.	4201.
EXTRA OPERATIONAL REVENUE	279.	312.	347.	385.	424.	466.	503.	543.	587.	634.	684.
EXTRA OPERATIONAL EXPENSES	306.	360.	419.	489.	565.	652.	739.	839.	951.	1078.	1223.
NET RESULT	-61.	382.	733.	1809.	1705.	2218.	2269.	2543.	2651.	2866.	3663.
RATIO											
WORKING RATIO	0.58	0.55	0.55	0.50	0.50	0.49	0.49	0.50	0.50	0.51	0.51
OPERATING RATIO	0.85	0.80	0.80	0.75	0.74	0.72	0.72	0.72	0.72	0.73	0.73
INTEREST COVERAGE RATIO	0.97	1.28	1.51	2.23	1.86	1.97	1.84	1.86	1.82	1.87	2.07
DEBT SERVICE RATIO	1.83	1.87	2.14	2.62	2.21	2.22	2.12	2.05	1.81	1.77	1.87

ANNEX 4
Table 7.9

03/10/83

CAMEROON
THIRD DOUALA PORT PROJECT
NATIONAL PORT AUTHORITY
PROJECTED BALANCE SHEETS FY 1981-1991

(IN MILLIONS OF CFAF)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
ASSETS											
FIXED ASSETS											
LAND	12310.	12310.	12310.	12310.	12310.	12310.	12310.	12310.	12310.	12310.	12310.
INFRASTRUCTURE	23962.	27430.	34846.	44403.	49121.	54242.	59012.	64218.	69805.	75800.	82233.
BUILDINGS	5794.	6109.	6704.	7347.	7695.	8085.	9380.	10780.	12278.	13880.	15595.
EQUIPMENT	9467.	9417.	9427.	12154.	15062.	17297.	18543.	19892.	21340.	22892.	24557.
TOTAL GROSS FIXED ASSETS	51533.	55266.	63287.	76214.	84188.	91933.	99245.	107201.	115733.	124882.	134694.
DEPRECIATION ON INFRASTRUCT	2233.	3193.	4417.	5983.	7717.	9635.	11722.	13996.	16469.	19156.	22073.
DEPRECIATION ON BUILDINGS	1343.	1621.	1925.	2259.	2609.	2977.	3403.	3893.	4451.	5082.	5791.
DEPRECIATION ON EQUIPMENT	2675.	3567.	4459.	5625.	7081.	8761.	10565.	12504.	14588.	16827.	19233.
TOTAL DEPRECIATION	6251.	8380.	10802.	13867.	17407.	21372.	25690.	30393.	35508.	41065.	47097.
OTHER INVESTMENT	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL NET FIXED ASSETS	45282.	46886.	52485.	62347.	66781.	70561.	73555.	76808.	80225.	83817.	87598.
OTHER FIXED ASSETS	498.	498.	498.	498.	498.	498.	498.	498.	498.	498.	498.
TOTAL FIXED ASSETS	45780.	47384.	52983.	62845.	67279.	71059.	74053.	77306.	80723.	84315.	88096.
SHORT TERM ASSETS											
STORES	128.	237.	346.	433.	517.	612.	721.	844.	968.	1114.	1272.
RECEIVABLES	2475.	2767.	2488.	2890.	3164.	3513.	3804.	4139.	4459.	4829.	5302.
PREPAID EXPENSES	289.	424.	546.	672.	802.	947.	1102.	1275.	1453.	1688.	1935.
CASH AVAILABLE	342.	95.	117.	95.	248.	757.	1778.	2748.	2828.	2551.	2784.
TOTAL SHORT TERM ASSETS	2892.	3523.	3497.	4090.	4731.	5829.	7406.	9006.	9708.	10182.	11293.
TOTAL ASSETS	48672.	50907.	56480.	66935.	72010.	76888.	81459.	86312.	90431.	94496.	99388.
LIABILITIES											
LONG TERM LIABILITIES											
CAPITAL	8040.	8040.	8040.	8040.	8040.	8040.	8040.	8040.	8040.	8040.	8040.
RETAINED EARNINGS	11031.	12373.	18205.	23875.	25421.	27485.	29590.	31972.	34466.	37183.	40702.
LONG TERM DEBTS	25219.	25700.	25927.	30582.	33994.	36664.	38960.	41285.	42763.	44016.	45297.
TOTAL LONG TERM LIABILITIES	44290.	46113.	52172.	62497.	67454.	72190.	76590.	81296.	85269.	89238.	94039.
SHORT TERM LIABILITIES											
PAYABLES	3781.	3815.	3849.	3877.	3903.	3933.	3967.	4006.	4045.	4092.	4142.
ACCRUALS	389.	438.	459.	484.	652.	766.	902.	1009.	1116.	1166.	1208.
OVERDRAFTS	554.	541.	0.	77.	0.	0.	0.	0.	0.	0.	0.
TOTAL SHORT TERM LIABILITIES	4724.	4794.	4308.	4438.	4555.	4698.	4869.	5015.	5161.	5258.	5349.
TOTAL LIABILITIES	49014.	50907.	56480.	66935.	72009.	76888.	81459.	86312.	90431.	94496.	99388.
RATIO											
CURRENT RATIO	1.63	1.36	1.23	1.09	0.96	0.81	0.66	0.56	0.53	0.52	0.47
LIQUIDITY RATIO	1.71	1.46	1.37	1.21	1.08	0.90	0.73	0.61	0.59	0.58	0.53
DEBT-EQUITY RATIO	1.32	1.26	0.99	0.96	1.02	1.03	1.04	1.03	1.01	0.97	0.93
RATE OF RETURN	0.022	0.037	0.040	0.053	0.056	0.067	0.072	0.077	0.081	0.083	0.091
RATE OF RET. ON REV. ASS.	0.022	0.037	0.037	0.045	0.045	0.049	0.049	0.049	0.048	0.046	0.047

CAMEROON
THIRD DOUALA PORT PROJECT
DOUALA PORT

TRAFFIC STATISTICS FOR DOUALA

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
NUMBER OF SHIPS	1216.	1391.	1496.	1584.	1667.	1768.	1867.	1990.	2123.	2265.	2420.
TOTAL TONNAGE	3534.	4178.	4611.	5021.	5434.	5893.	6375.	6885.	7439.	8026.	8670.
AVERAGE STAYING TIME	3.22	3.06	2.97	2.92	2.79	2.76	2.74	2.73	2.73	2.74	2.75
PRICE INDEXES											
NATIONAL INFLATION	0.140	0.120	0.110	0.110	0.100	0.100	0.080	0.080	0.080	0.080	0.080
INTERNATIONAL INFLATION	0.120	0.100	0.090	0.090	0.080	0.080	0.080	0.080	0.070	0.070	0.070
SALARY INCREASES	0.120	0.160	0.100	0.090	0.090	0.080	0.070	0.070	0.070	0.070	0.070
STAFF MERIT INCREASE	0.030	0.030	0.030	0.030	0.020	0.020	0.020	0.020	0.020	0.020	0.020
INVESTMENT PRICE INDEX	0.000	0.000	0.080	0.080	0.080	0.080	0.080	0.080	0.070	0.070	0.070
DEPRECIATION NATIONAL CURREN.	0.000	0.050	0.050	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
REAL TARIFF INCREASES (1)											
TARIFF INCREASE ON SHIPS	0.150	-0.040	-0.020	0.120	0.000	0.020	0.000	0.000	0.000	0.000	0.000
TARIFF INCR. ON STAYING TIME	0.300	-0.040	-0.020	0.120	0.000	0.020	0.000	0.000	0.000	0.000	0.000
TARIFF INCR. ON MERCHANDISE	0.200	-0.040	-0.020	0.060	-0.040	-0.030	-0.050	-0.050	-0.080	-0.080	-0.050
TARIFF INCREASE ON RENTALS	0.050	0.160	-0.020	0.080	0.000	-0.010	-0.030	-0.030	-0.050	-0.050	-0.030
TARIFF INCR. FOR WORKSHOPS	0.070	-0.040	-0.020	0.080	0.000	-0.010	-0.030	-0.030	-0.050	-0.050	-0.030
AVERAGE TARIFF INCREASE	0.147	0.030	-0.020	0.084	-0.014	-0.008	-0.028	-0.028	-0.045	-0.044	-0.026

(1) ON TOP OF LOCAL INFLATION

ACTION PLANS

A. Action Plan for Organizational Development

1. In order to meet the requirements arising from past and future increases in traffic and size of ships, the completion of extension works of the Port, and the increasing complexity of NPA's financial system with its increasing indebtedness, NPA will further strengthen its organization and continue modernizing its corporate planning system.

Organizational Development

2. All measures included below should be implemented by December 31, 1983.

(a) Directorate of Civil Works. In order to raise staff productivity and reduce costs, NPA will fully enforce the management control system in this sector to control costs and productivity, reinforce upper-level staff by transferring staff from the Directorate of Studies where they are no longer needed to the Directorate of Civil Works (para. 3.03) and control increases in staff through the manpower plan (para. 3.07).

(b) Access and Movement of Ship. To improve the safety in movement of ships, a Directorate of Access will be created. It will be responsible for access maintenance, dredging hydrography and assistance to navigation. This directorate will be headed by a Cameroonian Director assisted by a qualified expert. The existing staff in NPA in charge of these matters will be trained especially for access problems in a special training plan to be discussed with the Bank (para. 3.04).

(c) Management of Human Resources. NPA's training system is now in effect. Beginning in late 1983, NPA will implement more effective plans and systems for manpower development, training, and personnel administration and evaluation, with the assistance of consultants financed under the proposed project. The present organization for the management of human resources will need strengthening at the senior level. Therefore, a position of Deputy Director to Human Resources, in charge of personnel administration, social services, and training will be created, directly under the authority of the Director of General Administration and filled by end-1983 (para. 3.07).

(d) Directorate of Finances. The task of the senior staff has become more complex with the management of the debt, part

of it in foreign currencies, and the extension of the cost accounting system. Therefore, the intermediate-level staff of the Directorate of Finances will receive specialized training as included in the agreed outside training plan (para. 3.10). In the present organization, all decisions are taken by the Director who is overloaded with day-to-day problems. After the nomination of a new Director of Finances, in consultation with the Bank, NPA will hire a Deputy Director to share the work load of the Director, and thus allow him to concentrate on financial policy issues (para. 3.14).

(e) Division of Economic Studies. This division is currently insufficiently staffed. NPA will recruit one highly qualified economist for traffic analysis, projection and economic investment studies (para. 3.15).

(f) Data Processin Department. This department is currently limited in size, because its activities comprise only maintenance of existing programs, collection of input data and dispatching of printouts. With the acquisition of hardware, giving NPA full autonomy in data processing, the tasks of the Department will be qualitatively and quantitatively changed. NPA will have to expand its programming and operating capacities, and in priority, reinforce the higher-level staff of the Department by recruiting a qualified specialist by September 30, 1983, prior to the delivery of the hardware equipment.

(g) Corporate Planning. NPA has already a training plan, prepared by the Training Division, and an investment plan, prepared by the Department of Studies. It will establish a Corporate Planning Department in charge of coordinating long-term planning with the Training Division and the Department of Studies, and of preparation of the financial and operational plans. NPA will appoint a suitable person for heading this department.

Long-Term Planning

3. Within the framework of the National Development Plan, NPA will prepare by June 30, 1984 a full five-year corporate plan. This plan will be discussed with the Bank prior to final approval by NPA's Board, and will be updated annually thereafter, in consultation with the Bank during the project disbursement period.

The corporate plan will comprise:

(a) a manpower plan, to be prepared with technical assistance as needed (para. 3.07);

(b) an investment and financing plan (para. 5.06); and

(c) an operational plan for port activities.

B. Financial Action Plan

4. This plan of action comprises those measures geared to improving profitability and strengthening NPA's working capital and liquidity.

Improvement of Profitability

5. In order to raise its operating revenues and to capture a significant portion of the benefits for the project, NPA will ensure that its tariffs are sufficient to achieve a working ratio defined as working expenditures (i.e., staff costs, consumption and supplies, and general expenditures) divided by total revenue from operations, of at least .52 in FY1984 and .50 from FY1986 forward (para. 7.19).

6. Tariff structure will reflect more adequately the full costs of services provided to port users defined as direct cost, plus depreciation on infrastructure, financial costs, and a margin sufficient to cover total overhead (para. 7.06).

7. In order to avoid an excessive increase in staff costs, NPA will limit total average salary increases resulting from promotion and seniority to a maximum of 3% per annum starting in FY1984 (para. 7.07).

8. Further to para. 3(b) above, NPA's investment policy will be described in a detailed five-year revolving investment and financing plan to be prepared and presented to the Bank by June 30, 1984. This plan will present in Part A all items justified by adequate technical, economic and financial studies and in Part B items subject to further study. It will be updated annually, in consultation with the Bank, during the disbursement period of the project (para. 5.06).

Strengthening of Financial Structure

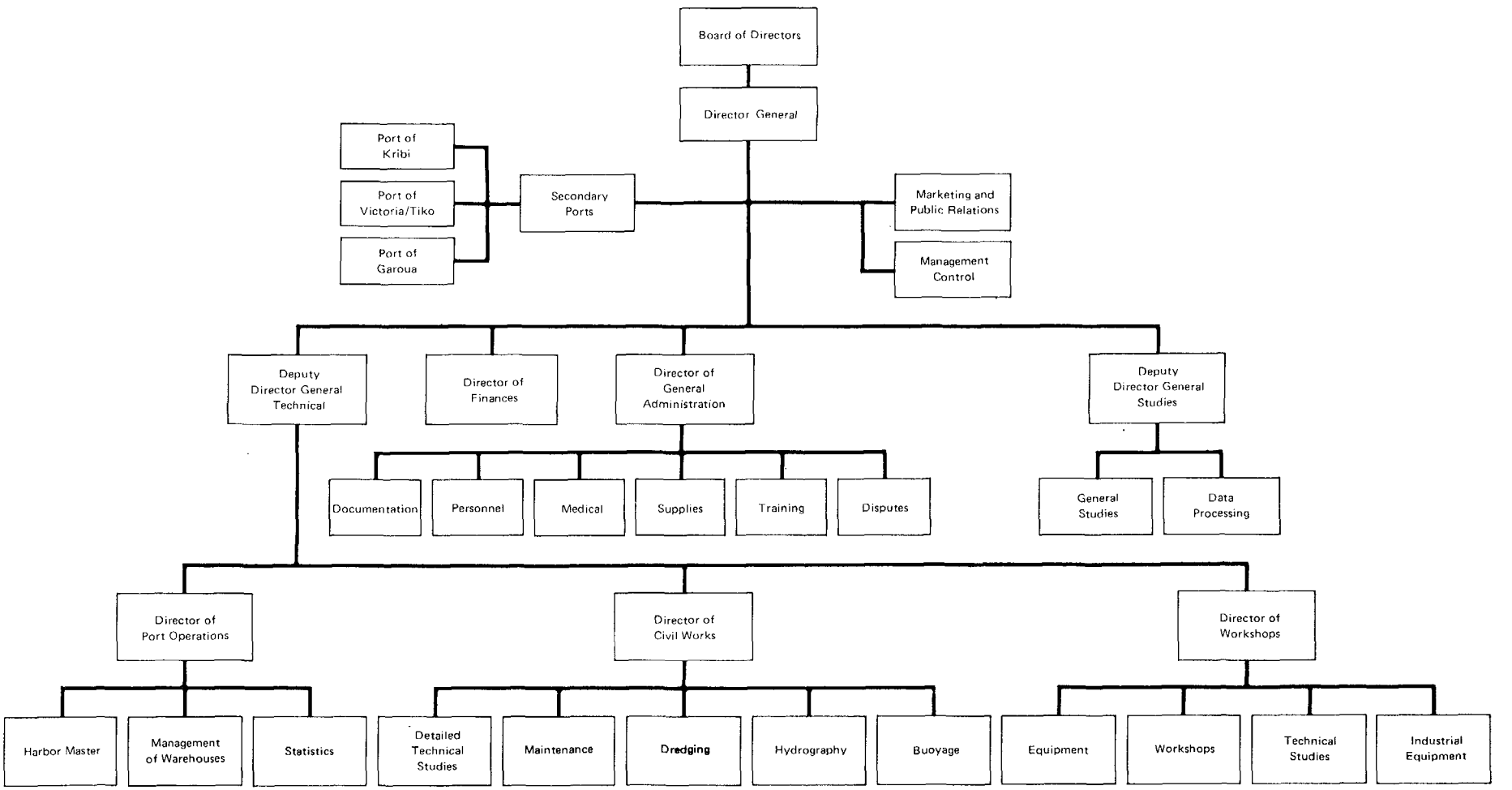
9. In order to strengthen its financial structure, NPA should improve the management of its short-term assets and reinforce its working capital. For that purpose, the following objectives will be implemented:

(a) By June 30, 1984, commercial receivables will be reduced to two months of revenue. For that purpose, NPA will give full responsibility for revenue collection to the operational department (para. 7.11);

(b) Starting as of December 31, 1983, bank overdrafts should not be incurred (except for short periods (para. 7.21)); and

(c) To avoid an excessive increase in indebtedness, NPA will raise its contribution to capital investment on its own funds to 17% in FY1984 and 40% from 1986 forward (para. 7.22).

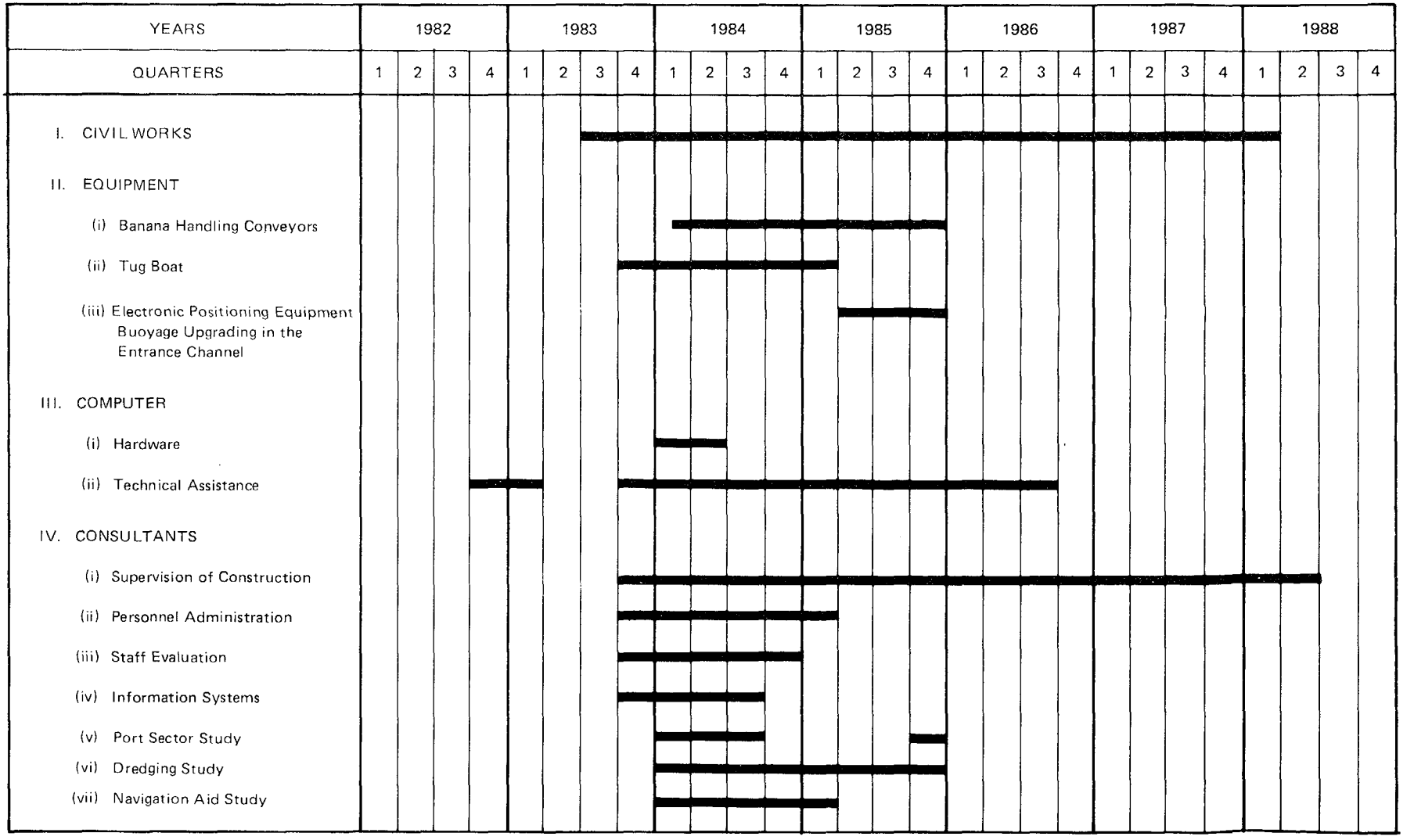
CAMEROON
THIRD DOUALA PORT PROJECT
NATIONAL PORT AUTHORITY
ORGANIZATION CHART



World Bank - 22926

Chart 1

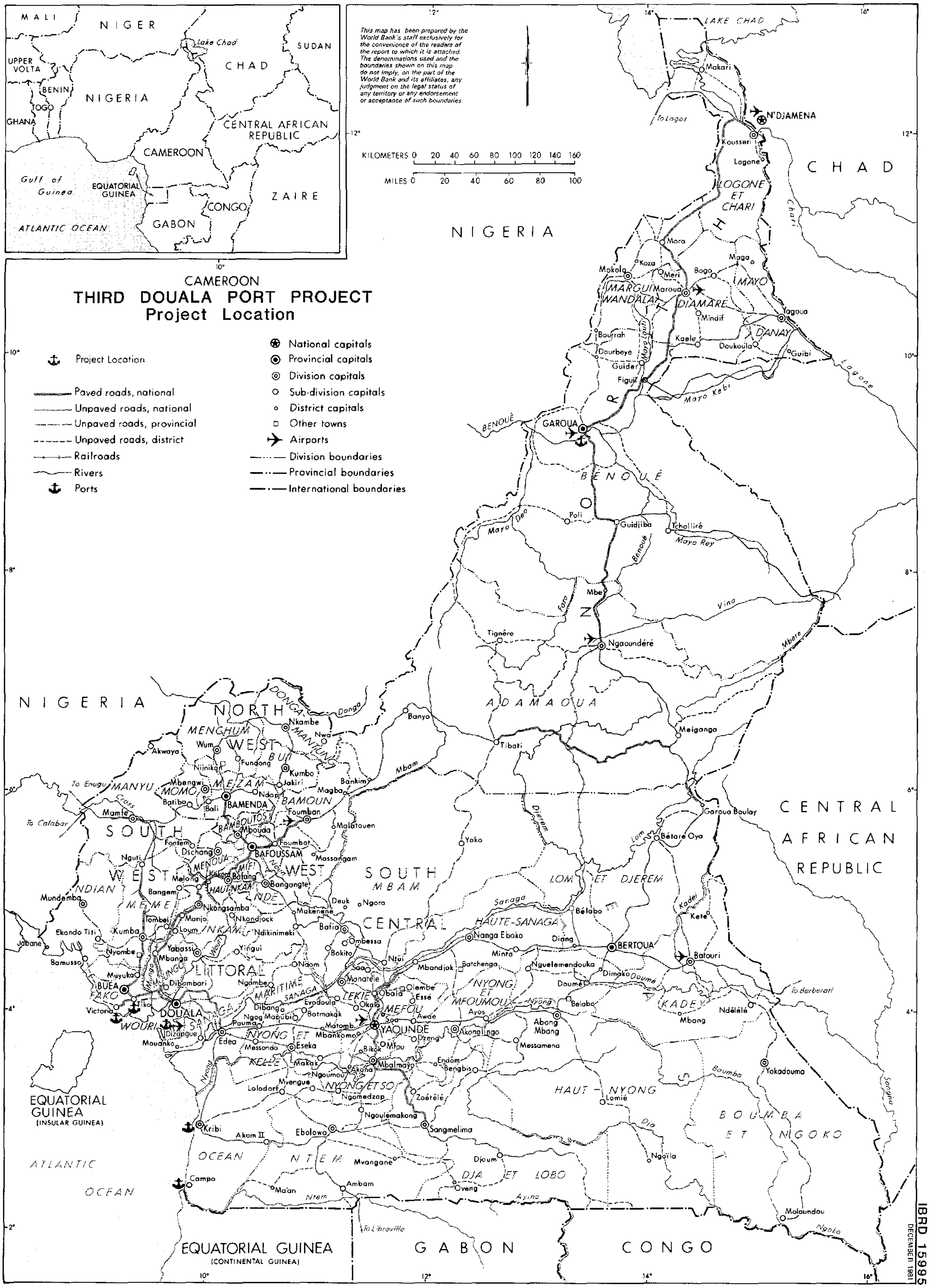
CAMEROON
THIRD DOUALA PORT PROJECT
Project Execution Timetable



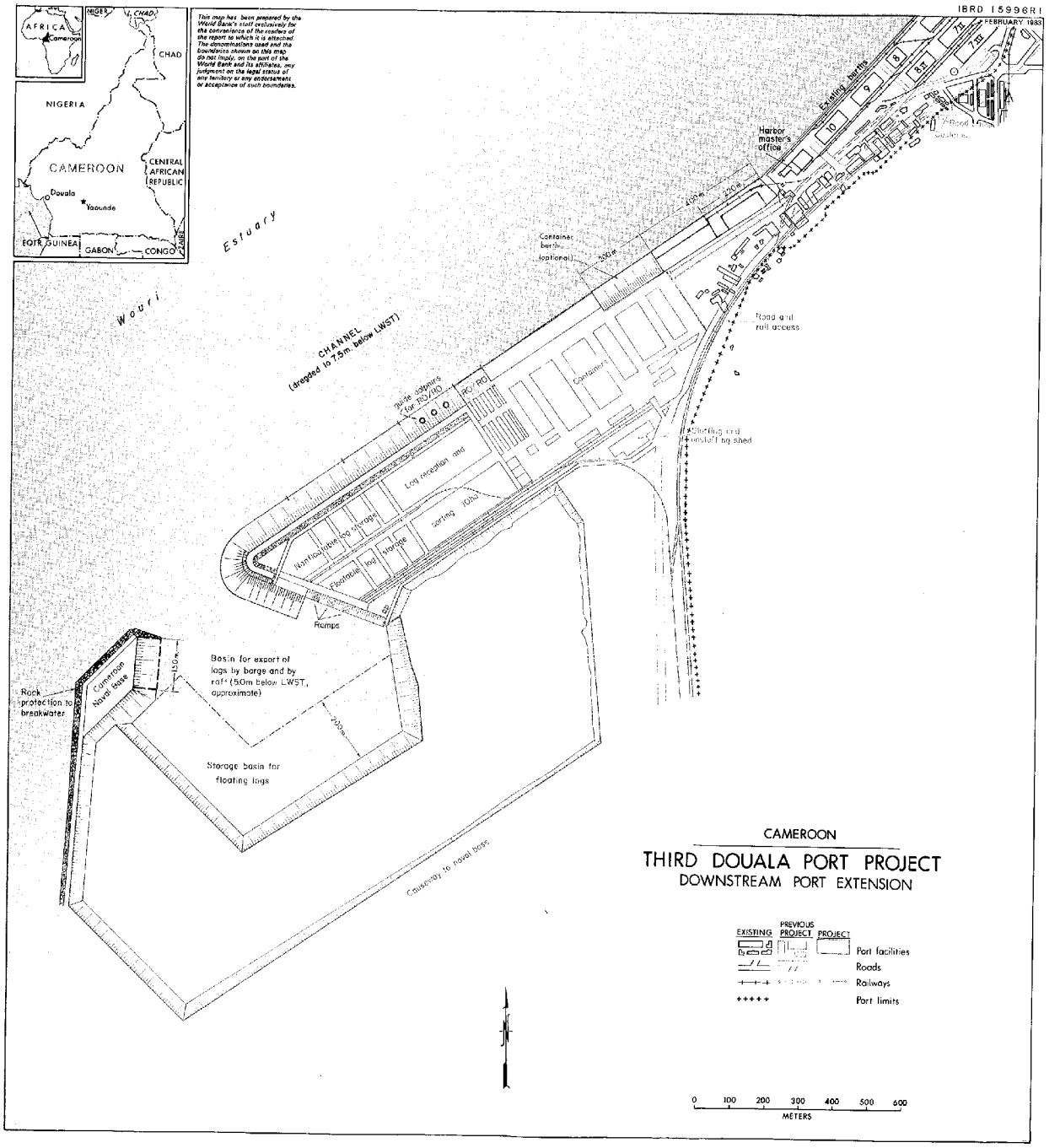
January 1983

World Bank—24272

Chart 2


CAMEROON
THIRD DOUALA PORT PROJECT
Project Location
Project Location
National capitals
Provincial capitals
Division capitals
Sub-division capitals
District capitals
Other towns
Airports
Division boundaries
Provincial boundaries
International boundaries
Paved roads, national
Unpaved roads, national
Unpaved roads, provincial
Unpaved roads, district
Railroads
Rivers
Ports
This map has been prepared by the World Bank's staff exclusively for the convenience of the readers of the report to which it is attached. The denominations used and the boundaries shown on this map do not imply, on the part of the World Bank and its affiliates, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.
KILOMETERS 0 20 40 60 80 100 120 140 160
MILES 0 20 40 60 80 100
MALI
NIGER
UPPER VOLTA
BENIN
TOGO
GHANA
NIGERIA
Lake Chad
CHAD
SUDAN
CENTRAL AFRICAN REPUBLIC
CAMEROON
Gulf of Guinea
EQUATORIAL GUINEA
CONGO
ZAIRE
GABON
ATLANTIC OCEAN
LAKE CHAD
N'DJAMENA
CHAD
NIGERIA
NORTH
LOGONE ET CHARI
MARGUI WANDALA
DIAMARE
MAYO DANAY
BENOUE
ADAMAOUA
GAROUA
Ngaoundéré
NORTH WEST
SOUTH WEST
WEST
LITTORAL
CENTRAL SOUTH
EAST
LOM ET DJEREM
HAUTE-SANAGA
KADEI
HAUT-NYONG
BOUMBA ET NGOKO
DJA ET LOBO
NTEM
OCEAN
BAMENDA
BAFOUSSAM
DOUALA
YAOUNDE
BERTOUA
BUEA
Victoria
Tiko
Kribi
Campo
Edea
Ebolowa
Sangmelima
Garoua Boulay
Batouri
Yokadouma
Meiganga
Tibati
Banyo
Kousseri
Maroua
Mora
Yagoua
Poli
Tcholliré
Guidjiba
Mbe
Tignére
Foumban
Kumba
Nkongsamba
Mamfe
Wum
Kumbo
Bafia
Nanga Eboko
Abong Mbang
Mbalmayo
EQUATORIAL GUINEA (INSULAR GUINEA)
ATLANTIC OCEAN
EQUATORIAL GUINEA (CONTINENTAL GUINEA)
GABON
CONGO
CENTRAL AFRICAN REPUBLIC
IBRD 15995
DECEMBER 1981

IBRD 15996R1



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JANUARY 1982